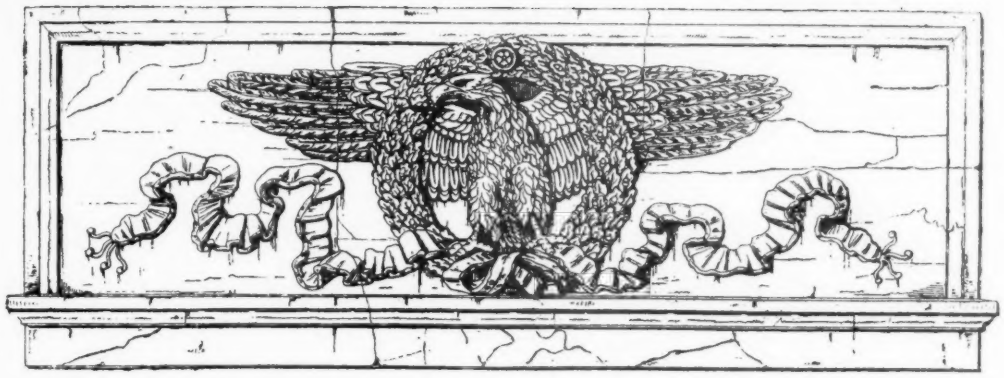

CO-OPERATION AMONG ARCHITECTS, AND SPECIALIZATION.

Discussion at the Eleventh Informal Conference, held at the Royal Institute of British Architects, 9th January, 1918.

Professor BERESFORD PITE [*F.*] in the Chair.

Mr. H. V. LANCHESTER [*F.*]: The overturn of established routine effected by the change from normal conditions to those of a war such as is being waged at the present time, if it does not actually evoke new ideas, at any rate brings into active expression all those that have been lying dormant during the ordinary routine of professional or business activity. We are apt to tolerate many failures of organisation and method, provided these do not definitely preclude the achievements which are the essential aims of our professional practice; but at a time like the present, when a drastic reintegration of the aspects of life is in progress, all who have any mental vitality feel impelled to reconsider factors that have been disregarded, and to consider in what directions there have been primarily poverty in ideals, and, following on that, defects of the methods aimed at securing achievement of these ideals.

Now the broadening of our views as to what architecture should stand for in national life has been the subject at some of the other conferences, so I am limiting myself to-day to the consideration of the question whether we architects among ourselves are really organised in such a manner as to enable us to give our services in a fashion to secure the best results with a minimum of waste of time and cost. It may, I believe, be substantiated that as a profession we are extraordinarily wasteful both of our energies and of our professional expenditure, and that moreover we are compelled by our lack of system to devote a large proportion of our time to duties which do not interest us and for which we are not specially qualified. While these facts are familiar to most of us, the explanation has frequently been given that the individualistic method from which this state of things arises is essential to the exercise of our art. Now this contention is, I am convinced, a fallacious one, and I would ask you to allow me to propound my reasons for this belief. I will grant that the finest and most imaginative work is a thing apart from all minor considerations such as those before us. It comes from the hand of the man of genius and is appreciated by the few whose culture qualifies them to do so; of these few more are within the ranks of the profession than outside it, so that it is only comparatively rarely that the demand is made for a building solely on the ground of beauty and imaginative force. In the great majority of cases the demand is for one that fulfils certain practical requirements reasonably and economically, while if it simulates, in a superficial way, a work of architecture, that is the extent to which those who commission it can feel assured that their intentions are achieved. You will all agree that the really competent judges of architectural expression, outside the artistic professions, are few and far between.

Granted then that, broadly speaking, architects are the best judges of architecture, it remains to be determined how they can organise so that the public will be given better rather than inferior designs for buildings. It might be thought that this would demand an altruistic attitude on the part of those whose ability in design is but mediocre impossible of attainment, but I hope to prove that this would not be the case. An important consideration is the fact that men's gifts vary greatly even within the limits of the activities demanded by our profession. The efficient practice of architecture makes varied demands that can rarely be fulfilled by one man, however good his abilities and training. In ninety-nine cases out of a hundred the architect may claim to be skilful in one or two directions, and if he is wise he supplements his skill in others by expert advice or the judicious selection of assistants. Now this appears to me a method which is usually somewhat of a makeshift and not entirely fair to those concerned. The principal is induced to extend his activity into branches of work for which he is less equipped than many others. I maintain that if he collaborated rather than employed it would be better

for all concerned including himself. You will, I think, accept the axiom that we all prefer doing what we can do the best, and therefore any system that gives a man freedom to do only what he is best qualified to do is to be commended.

Under our present individualistic methods we all have to do a great deal that is not particularly our *métier* or to our taste, while if we collaborated more we should be able to divide our work without any loss; indeed, with a gain, in the aggregate, so that each would be doing exactly what he enjoyed most and what he could do the best. Before laying down a programme for such co-operation, I should like to outline the varieties of function comprehended in architectural practice.

To begin with, there is the tactful approach towards those promoting an undertaking, the expositions necessary to make it clear that their aims will be achieved. Next, there is the logical analysis of requirements and the comprehension of what these aims are. Then we come to the synthetic studies necessary to put in material form the appropriate structure. Following this, the architectural expression such a structure should take both in mass and detail, which is perhaps the only stage of the work that can be defined as purely architectural.

We now come to a group of proceedings not so closely connected with the design as to demand more than a linking up between the controls in each case; the actual taking out of quantities or preparation of a schedule has already been cut apart, but many other questions such as the economics of structure and material afford opportunities for another type of faculty than that of imaginative expression. The actual progress of the building gives opportunities again for the exercise of various branches of knowledge even when the whole of the organisation is delegated to a contractor, but it is an open question whether this is uniformly the best method of producing a fine building, and, if it were not employed, a further demand in the way of organisation would be made on the architect. Following the actual building it has frequently been recognised as desirable that the architect should complete his work by designing and controlling the fittings, working plant, furniture, etc. It is very desirable that this course should be adopted, but here again the designer is apt to be overburdened if he has not the support of others technically qualified. Lastly, the interim and final adjustment of payments and accounts are matters with which the architect, as such, need only be in touch to a minor extent.

It appears to me obvious that, while the machinery just cited as necessary for the control of a building can be organised by one man, it is for at least two reasons undesirable that it should be. First, for the reason that at various stages quite different qualifications take the dominant place; and, secondly, for the reason that in the majority of instances it will not be the probable architectural character of the building that will dictate the selection of the architect who is in the position of principal.

You will notice that I have not expanded this question of variation to include the specialisation in classes of building such as churches, hospitals, etc., because such specialisation can continue or not without affecting my argument, and also because I feel that the popular tendency is already too great in the direction of labelling men as specialists in architectural work. Architecture is in principle an art equally capable of giving expressive form to structural needs of all kinds, and the thoroughly trained architect should be capable of this translation in regard to any type of structure. There must be some measure of specialisation in the interests of efficiency and economy, but it is better in the subdivision of the work before cited than in the undue classifying of types of building. Let us beware of making a fetish of the latter.

It may be guessed that it was the question of providing for that numerous body of architects now in the Forces a convenient opening for re-entry into their profession which induced me to put forward the views I am now expressing, but they are none the less views I have long held, though it hardly appeared that there would be much probability of their adoption but for such a crisis as the present one.

To come at last to definite proposals, I class these under two heads, the more important one including such action as could be taken by architects mutually acquainted with each other's tastes and qualifications, the other covering what might be done by a professional society such as the R.I.B.A. After what I have said you will be aware that I take the view that architectural work should be more generally carried through by a group than by the individual. Personally I should prefer to see at the head of the group the man principally responsible for the imaginative qualities in the design; but this would not always be practicable; and indeed there are often cases of collaboration in which it would be impossible to say who is primarily responsible for the result. After all, it is not really important that there should be a titular head so long as each partner is qualified for the services he undertakes. What is important is that one or more in the combination should be men of real artistic power, selected by their collaborators for this qualification.

We in the profession well know that there are not enough artists to do the work demanded, and that those there are only find employment for a small proportion of their time in design, or are even often unemployed on anything because they lack certain qualifications which could be supplied by collaboration. I maintain that it is up to us as a body to economise our artists in the interests of the public, and keep the output of really fine work at a maximum. We are not depriving anyone; the capable "all-round" building man designs because he has to, not because it is a peculiar and unique experience;

occupation on scientific or economic problems is just as interesting to him ; and similarly all those taking part in a co-operative effort would group themselves so that each should exercise his functions in the branch most congenial and where he is most efficient.

You may imagine that the programme sketched out would involve substantial financial sacrifices on the part of some in favour of others. A few might find a slight reduction in income, but very few ; while the others would benefit to a greatly enhanced extent. Let us look at the economies. Taking the profession as a whole, and remembering those only half occupied or struggling with inappropriate work, I think I am within the mark when I say that the average output of the men capable in any specific direction would be doubled. Again, look at the economy in office rents and expenses. The number of offices could be reduced by two-thirds, but as they would be somewhat larger we could put rent, etc., at one half.

Something on these lines is already the general practice in the U.S.A., and I do not think it can be said that the art of architecture there has suffered in consequence. I would not advocate an exact imitation of American methods, conditions here being somewhat different. What I aim at is a programme retaining the personal power of expression, but organised to secure the advantages of working in co-operative groups.

With a view to meeting the special needs of men in H.M. Forces and of affording a graduated route to such co-operative methods, a sub-committee of the Architects' Reorganisation Committee has drawn up the following suggestions :—

" 1. That practising architects be invited to offer office accommodation to suitable applicants in return for a proportionate annual payment, based upon the rent of the office and upon the estimated value of any service rendered by the architect or his assistants; or, *alternatively*, that payment by the applicant for office accommodation should be commuted for assistance rendered by him to the practising architect.

" 2. That practising architects be invited to offer office accommodation and either (*a*) a small salary or (*b*) a percentage of the profits in exchange for the part time services of the applicant.

" 3. Alternatively, it is suggested that practising architects requiring assistance should carefully consider the advantages offered by the co-operative system of conducting an office under which the senior architect would continue his professional work with the assistance of three or four younger men associated with him in the capacity of coadjutors or partners.

" In business arrangements of this description the close association of men possessing varied professional qualifications who are thus of real service to each other might confidently be expected to raise the quality of the architectural output of the office and to facilitate its production in the most economical manner possible. In addition excellent opportunities would arise from time to time for the gradual promotion of capable junior assistants. The chief danger to be feared would be that arising from incompatibility of temperament between the various workers in the office, amongst whom it would be essential to foster a spirit of *camaraderie* and mutual goodwill. The terms of association with practising architects, on a yearly or other terminal agreement or for the duration of specific work, might be arranged as follows :— The coadjutor or partner to receive an agreed share (*a*) of the net earnings calculated upon a percentage basis, or (*b*) a preferential share of the net earnings, upon such work as he introduces into the office, the balance being equally divided between the partners. In these cases the term ' net earnings ' would mean the gross receipts for the specific work introduced by the junior, less the proportion of office expenses allocated to that work.

" The sub-committee is of opinion that action on these or similar lines would not only be advantageous to those architects now serving in the Forces but would also be in harmony with what appears to be the general trend of social reconstruction after the war."

These suggestions give an indication of the ground that might be covered by members of our profession acting on their own initiative, but it does not quite cover the question of specialisation in the numerous arts and sciences connected with modern architectural practice. Here we reach the point at which the Professional Society may profitably come in. Taking our R.I.B.A. as an example, let us consider in what way a revision of the constitution might help us. Now, some of us have long felt that the class of Honorary Associates is in an anomalous position. It is not honorary, in that a subscription is paid, and there is no clear line between the qualification for Hon. Fellow and that for Hon. Associate. Now, I would suggest that the title Associated Members should be substituted for Hon. Associates, and that the qualification for the two classes should be on the following lines :

Hon. Fellows.— Distinguished amateurs and representatives of the Sciences and Fine Arts not receiving remuneration for any work in connection with building.

Associated Members.—Experts in various branches of artistic and scientific work connected with building operations.

The proposed distinction is, as you will see, based on the interest in our art being absolutely divorced from practice for profit or otherwise. Associated Members would be carefully selected as men of sound attainments in their respective branches of work, and they could thus be regarded as a kind of panel from which architects could safely invite advice or assistance in technical matters. This body of technicians, in conjunction with the Council of the R.I.B.A., could frame a suitable code for the relationship between the architect and the technical adviser, and thus smooth away many of the difficulties that

arise at present. Such a body of Associated Members would greatly strengthen a society like ours.

You will recognise that the propositions here put forward are merely in outline, but they must necessarily be but sketchy in view of the fact that no hard and fast system is applicable to the practice of an art combined with a profession of which architecture is the unique example. Emendations and expansions will doubtless occur to you, and I shall be most interested in and stimulated by your criticisms. At the same time I wish to make the claim that the general principles I have enunciated are sound ones, and my faith in them will not easily be shaken.

MR. A. SAXON SNELL [*F.*]: The ideas put forward follow very much those in a book I have heard of called "Guild Socialism," by Coles. There are several difficulties in regard to the idea of co-operation between architects. We have to remember that architects have legal responsibilities. A man whom I will term a practical architect may get an artist to join with him, but many good artists have hazy ideas of responsibilities and such may get the architect into a serious *impasse*, for which the latter would be responsible. In any such partnership each would have to give the other a bond that they would be jointly responsible for any mistakes which might arise. There is, too, specialisation in design. Many architects say they can do any sort of work, and even work of a particular kind, such as hospitals and baths. It is true, but they can only reproduce what has been done before; copying is easy, but the specialist is always ahead. Considerable difficulties arise from time to time in the employment of experts. In my student days not much had been done with regard to electric lighting, and I have been far too busy since to make a study of it, and have always had the assistance of an electrical engineer. Ordinary hot-water and heating I do myself, but for work requiring high-pressure boilers I get a specialist to help me. The difficulty is that the specialist naturally wants 5 per cent. commission on the work he does, and as the architect only gets 5 per cent. commission on the whole work he has to pay the specialist's fee and get nothing himself for the labour involved in explaining his plans, and so on, to the expert. On the other hand, the public would object to paying fees of 10 per cent. on the work, and if architects tried to insist on it they would not be employed. There is also the question of what special work is. I know of the case of a building where the concrete floors, the whole of the drainage, the plumbing and the engineering work were done by specialists. I think the public would be inclined to ask the architect what he *did* know. Of course, in the case of a great artist the public would not mind paying 20 per cent., but for the ordinary man they would not stand it. Unfortunately, the public do not ask for the highest quality of work, but want the job done at a certain price and with as little in the way of fees as possible.

MR. H. H. WIGGLESWORTH [*F.*]: I wish to express thanks to Mr. Lanchester for his stimulating address. I am very much in sympathy with his ideas, and they are what we should desire to emulate, though in some respects they are a counsel of perfection. In olden times architects looked to patrons for work. Great architects, such as Sir Christopher Wren and Sir William Chambers, secured much of their work from Royal and noble patronage, and thus were spared the uncongenial task of finding jobs. In America the combination of men of great commercial ability with highly trained artists has led to strength and efficiency. In this country the tendency for artists to forgather and stand aloof from business life has been detrimental to architecture, and has deprived art of those invigorating qualities that arise from contact with militant life.

Mr. W. HENRY WHITE [*F.*]: I would like to add my thanks to Mr. Lanchester for his most interesting paper, or, rather, suggestion, because it only amounts at present to a suggestion. It would take many more meetings such as this to deal with the subject in detail. I think what is most needed at the present time is that we should devise some means to prevent architects losing their work altogether. It is being taken from us bit by bit. It commenced with the quantity surveyors forming a separate association, and it is developing along the line of "specialists" for all kinds of construction, until, with very little of the sort of collaboration which Mr. Lanchester asks for, one can conceive of buildings—I am not for the moment speaking of architecture—in which the architect *qua* architect would have no existence whatever. I think most of these questions solve themselves eventually, however much we may dislike to think it so, on the £ *s. d.* question. The £ *s. d.* question which has troubled most architects is that of the 5 per cent. scale, which has become the fetish of the building public when they think of employing an architect, and I think I am right in saying that for ordinary work, speaking in a general way, the public come to us because they feel they must have an architect and not because they think they really need one. The 5 per cent. scale of fees has, unfortunately, been so long in use, irrespective of the kind of work which an architect is supposed to do for it now, as compared with what he had to do when 5 per cent. first became a recognised charge, that this Institute should, in my opinion, say definitely what that original 5 per cent. meant, and what it should mean now as to an architect's work. It has been attempted by the Committee that dealt with the subject, and the new Scale of Charges—which is laid upon the shelf until the end of the war—in some way meets the position: recently also a Committee on the question of the employment of specialists have sent a report to the Council. My view is that the public will not be so concerned as to what the cost of producing each individual part of a building amounts to, if the Institute will lay

it down clearly in the Scale of Charges and will recognise that specialist work, as we now understand it, is quite apart from what an architect had to do when the 5 per cent. scale first came into use. The public have only to be taught that, and this Institute is the body to teach it, and *now* is the time. But what the Institute needs to do for architecture and architects is to induce the public to see the benefit of employing an architect, and that will quickly follow when architects are properly recognised. It is the old question of registration. So long as the public can go to any man who chooses to set up an office and call himself an architect, without any qualifications whatever, Mr. Lanchester's suggestions will, I am afraid, remain simply a dream. The Institute now acts as an examining body, but it should see that architects are properly educated as architects and that the public are protected, so that when a member of the public employs an architect he may do so with the knowledge that he is employing a capable man and one qualified—so far as examinations can qualify, apart from the higher ideals of design—to practise the profession. One of the speakers has mentioned that the design for the average building is not the principal thing which the public ask for, and I think that is correct. But the public should be taught that the properly educated architect can at least do what they want better than the universal-provider type. At present we know that, with the house agent architect, the surveyor architect, the concrete specialist architect, architecture itself is lost sight of so far as the public are concerned. Passing along the streets we see boards up giving the names of the builder and the "specialists" of a new building, but no recognition of the architect. The public, therefore, assume that those responsible for producing such buildings are the builders and specialists, and they have no means of ascertaining, except through the professional journals (which they are not interested in), the names of the architects who designed the work. We are the last to receive recognition. Those are general remarks on the subject, on aspects of it which it seems to me would have to be carefully considered before any idea of a Guild could come into being. As to such a Guild, one has to recognise the way an architect develops a practice, the responsibilities of partners and their responsibility to the public, and so far as I can gather from Mr. Lanchester's remarks it would still resolve itself into a partnership in which one man will be principal and who will gather round him others to help him do his work, and that they would get a proportion of the profits—how that proportion is to be determined I do not know—and when they get dissatisfied with their proportion and feel it is time for them to be "top dog" I do not see how the Guild is going to "carry on," to use a phrase which is common just now, nor whether such a Guild would develop again on specialistic lines for special buildings. It is obvious that a man with a practice which consists of getting a £100,000 job every other year or so is in a different position from one who gets twenty jobs of £5,000 each, and would require quite a different staff. And the client, of whom but little was said by Mr. Lanchester, but who, after all, is the man most to be considered, what is his position to be? I am trying to imagine an office conducted on Guild lines, consisting, perhaps, of three or four men. Is the client to come and discuss his architecture with the principal, his drainage with another member, and the steel construction with another? [Mr. LANCHESTER: Yes.] It is interesting, but I am afraid there would be many practical difficulties. Following the idea that a Guild would allow for each man doing the work he liked or could do best: of course there is a lot of uncongenial work—there is some drudgery in most occupations—but I have yet to learn that it is beneath the dignity of any artist to enter into the details of any part of the work of which he is the orginator. I think every part of a building needs to be designed for the purpose for which it is intended: design does not, to my mind, consist merely in what is presented to the public view. The design is in the plan, it is in the construction, it consists in the fitness of each part of the building for its work, and the architect who will not recognise that electric lighting, sanitation, engineering, and the other allied subjects have to be considered as part of his design is to my mind failing to realise his position towards his client; his general education should suffice to guarantee to his client that he is getting the right and proper thing for each part of his building. Mr. Sydell mentioned a point bearing upon that: it was that the clients would not recognise that they should pay additionally for "specialists'" work. Anyone who knows the amount of work the architect has to do in first obtaining instructions, then preparing the instructions for others to detail their work upon, in supplying the necessary drawings for their work and ultimately to generally supervise it, will, I am sure, realise that the architect is entitled to his proper percentage upon such work. In concluding, I would like to point out that in dealing with big buildings a combination such as Mr. Lanchester has indicated does, I presume, already exist, because every architect groups round him in the course of his practice the kind of assistance that is needed in order to produce his work. If not, how do large buildings get carried out in the perfection of detail which we know obtains at the present time? I think that just at this moment Mr. Lanchester has seen a sort of vision, but we want help in the direction of some practical suggestions before we shall be able to see his vision realised. I beg to second the vote of thanks to Mr. Lanchester for his interesting Paper.

MR. A. R. JEMMETT [*F.*]: The great value of Mr. Lanchester's paper is that it seems to make a definite attempt to deal with what we have every reason to anticipate will be the future condition of our profession and of society in general. Mr. Saxon Sydell referred to this condition as Socialism, but I think the right term is co-operation. There is one

point of view from which Mr. Lanchester's suggestions appeal to me very strongly, and, as he has not emphasised it himself, I should like to place it before you.

We were reminded the other day by Mr. Sidney Webb that architecture is a public service. What this entails, it appears to me, is that the profession as a whole is responsible for the quality of that service and responsible for the work that each individual member of the profession performs. At present we do not seem to recognise any such responsibility. We confine ourselves to making some sort of attempt at educating each individual architect to the highest level we can and then let him go his own way. If he puts up a very bad building we content ourselves with criticising it. I suggest this is entirely the wrong method—the wrong attitude—and that it does not pay in any sense of the term.

We have to remember that every bad building discredits the profession and reflects upon each one of us personally, and—what some of us think is a matter of importance—it does touch our pockets. We are individually losing money because some bad building may turn somebody off employing an architect, and that "somebody" might have employed you, Sir, or me. I don't think we quite realise this. We realise when we get a job, but not always how often we do not get one from the cause I have mentioned. The position is not improved by the fact—of which we were also reminded the other day—that there are builders and commercial firms who can put up better buildings than can some architects whose qualifications are supposed to be guaranteed by their membership of a professional society.

But in addition to really bad buildings there are others—perhaps the great majority—that show high qualities in some particular aspect, but fall short in others. Perhaps they are well planned but poor in elevation and detail, or perhaps they look very well but are badly constructed, or cost far more than they should have cost. Now, this is not rendering the best possible public service, and it is no credit to us. Neither is it necessary, for there is sufficient ability somewhere in the profession to do every part of the building well, if only we took the trouble to use it. The problem is how best to assemble and concentrate that ability in any particular building so that by a combined effort we could raise the standard of at least every important building to the general high level of the best in the profession, excepting always the work of genius. I certainly think that Mr. Lanchester's suggestion of co-operative offices tends to solve the problem of concentrating more diversified ability on each individual building, and so to raise the standard of our executed work. When half a dozen men are all working together, selected more or less for their different qualities, there is much more chance that every aspect of the building will receive specially qualified attention, so raising the standard of the building as a whole. At any rate, really bad buildings could hardly be produced by this system. There may be other ways of arriving at the same result, such as the employment of the specialist or consulting architect, but the specialist has already been dealt with by other speakers.

With regard to the comment that something of the sort had been done in America, I want to emphasise the point that so far as I understand the American system it seems to be in essence an adaptation of the factory system. You appear to get the proprietor, or small group of proprietors, and the large group of paid assistants working under him. This factory system is the method by which we have built up our industrialism here during the last century, and it is no doubt largely responsible for making our civilisation what it is. It may be said to have succeeded on its own lines, and to have attained its own ends, but I imagine it is somewhat discredited now, and that this is not the time to advance on lines which appear opposed to the general trend of reconstruction after the war. There is a great difference between a large office on the factory system and co-operation between equals, and it is co-operation of equals that Mr. Lanchester appears to support.

I would like to put one or two more points. We have had some discussions about the attitude of omniscience that is to some extent perhaps forced upon us by the public. I am inclined to think that the creation of co-operative offices would enable us to justify that attitude. It would no longer be a question of the omniscience of an individual, but of a group which might perhaps fairly claim to possess an expert in each of the principal sub-divisions of our work. Incidentally, the present problem of the expert may find solution on these lines, and if I were to venture on a criticism of Mr. Lanchester's scheme it would be that with co-operative offices we might hardly need his suggested expert Associated Members of the Institute. We might all keep our experts on the premises.

This brings us to a question of considerable importance—the question of official architecture. Here I believe the co-operative office will help us considerably. Opinions differ as to the value of official architecture and large departmental offices and as to the quality of the work they produce. But, whatever our opinions, we have to recognise that unless they serve some useful purpose they would not exist, and that they will go on existing so long as in the opinion of the public bodies who employ them they serve this purpose better than the independent individual architect can serve it.

One of the advantages that enable, or should enable, the large departmental offices to render efficient public service is just this greater command of expert assistance than is usually at the disposal of the average individual architect. They are able to have on the premises a highly trained specialist in every branch of the work they undertake, and of the highest quality that the particular city can produce. I do

not say it always is so, but it can be so ; and when it is, it becomes difficult for the individual architect to compete in that expert technical efficiency in every practical detail which seems just now to be more sought after than expert efficiency in general architectural conception and design.

I suggest that a good co-operative office would be able to compete with a large departmental office on its own ground, and render an equally efficient public service on the lines of technical efficiency. Being independent and free from the disadvantages apparently inherent in the nature of a departmental office, it would in my judgment be in a position to render a superior public service on the lines of general architectural efficiency.

The last, but by no means the least, point that I would like to make is that the formation of offices, or groups of men, working on co-operative lines would tend to give the young artist a better chance of getting into practice. Men of sensitive nature devoted to æsthetics rarely have the knack of getting work for themselves. Many such men never get a chance. It is one of the results of our lack of organisation that there is no system for pushing forward the brilliant student and providing him with an opportunity to practise for the good of the country, and incidentally for the credit of the profession as a whole, and the improvement of our own individual status and prospects. It is simply a matter of enlightened and intelligent self-interest. If we had these co-operative offices I feel sure that they would all feel bound to have a really good designer in the group, and that every young student of special merit or distinction would be snapped up and given a chance. He would form part of a sympathetic group or community where he would be helped and encouraged, and, if you like, protected from the rougher side of life and of our practice. From this point of view alone I think it would be worth while to try the experiment of offices on the co-operative principle.

There are other arguments in their favour, but I am afraid I have already spoken at too great a length. I would like to heartily join in the vote of thanks.

Mr. HUGH DAVIES : We should be grateful to Mr. Lanchester for bringing this matter forward, for, although we may not have arrived at any definite conclusion this afternoon as to what should be done, it does not alter the fact that the problem is a very important one. The point of view of the profession is still that the architect must cover the whole ground of work connected with buildings. We know that to be almost impossible nowadays. But, at the same time, there does exist amongst young architects a great deal of ability that is not directed towards the best ends. In the schools we find many young architects, who undoubtedly have what Professor Pite has described as the Divine spark of genius for design ; but there are others who have special abilities for those other departments of professional work which Mr. Lanchester has outlined. I always feel that it is really a loss to the profession as a whole when a young architect, leaving, perhaps, his principal and entering into professional practice on his own account, has to sit and wait for years for ordinary commissions, when he might be employing such special talents as he possesses in advancing the profession along those specialised lines. I think the failure of the present system of architectural education to find for every young man just the niche that he is best qualified to fill is responsible for the fact that so much professional work has been filched away by other people—frequently by quite incompetent people—who claim to be specialists on this, that and the other subject. We have not to-day found the real solution of this problem. It is, however, important that every part of the work of the profession should be carried out by the men who are best qualified to do it, and that the abilities of every one of these young men should be utilised to the greatest possible extent. We are now at a time when efficiency in the future is the watchword. We are considering how we are going to employ to advantage the abilities and the energies of every class in the nation ; and I think it is " up to " the architectural profession to see that, after this war, we shall have the affairs of the building industry as well organised from the point of view of efficiency as those of any other industry. Many young men who go through the ordinary curriculum to-day should, I think, be induced to specialise in some direction as well, so that with a training suitably adjusted to their abilities they may prove real assets in the profession and contribute more effectively to the prosperity of this country in the future.

The CHAIRMAN (Professor BERESFORD PITE [*F.*]) : I need not put, formally, that vote of thanks to Mr. Lanchester : we have practically all expressed our great sense of obligation for his interesting paper. On the subject itself I would just like to say I think Mr. Lanchester has only half dealt with it : he has not laid hold of the foundation really. If we have this co-operation, it must include building. The moment we understand it includes building, the whole of our outlook upon architecture as a profession, as an operative art, alters. Many—I had better say some—within my knowledge, have tried it. A very remarkable man who tried it on a large scale was Edward Welby Pugin. I do not mean Augustus, but the third Pugin, Edward Welby. He felt there was no possibility of getting good work done unless he co-opted the whole building trade, so he made his bricks, built his buildings, made his fittings and furniture. There are groups of buildings at Ramsgate that Edward Welby Pugin built which are most significant. One has been mutilated beyond recognition in the big Granville Hotel. That hotel Pugin not only designed but built, and he not only designed the furniture but he made it. And he was only carrying out the principles which his father felt to lie at the basis of

successful mediæval building when he built the interesting Roman Catholic Church and the house adjoining known as The Grange. But Edward Pugin also built a large convent and also a large college, besides having several other buildings in that part of the land. I feel that if I am going to co-operate with anybody I want to co-operate with the builder, with a man who will get the thing done. With regard to Mr. Lanchester's interesting sketch of every department of thought and activity co-operating, I would like to remind you that generally we are only dealing with buildings of the first class, or of considerable size, with £20,000 as the low limit—[Mr. LANCHESTER: I do not suggest a limitation of co-operative offices]—Then I shall have to ask what is the average income of members of this Institute, and classify ourselves accordingly. My suggestion is that in the case of every builder into whose hands I wish to put work, say of £50,000 and upwards, or even a lower figure, that builder already is in possession of a co-operative establishment, with experts in every department: he cannot get his work done without these men. Therefore we have to guard ourselves against the danger of creating in our profession another co-operation to watch that co-operation. Under the builder there are co-operations of various kinds. Ferro-concrete work and steel are co-operations already. It may become co-operation upon co-operation upon co-operation. The revolutionary step that I would like to see taken—and I think I am as brave a revolutionary, in a different way, as Mr. Lanchester himself—is to see architects put in the position of carrying out their buildings and allowed the responsibility of expending the capital sum employed upon their buildings. And the moment the architect is thus brought into contact with materials, with structure and with positive work, we shall get a good many of our ideals brought into the sphere of action. The effect upon the training of the architect and on the resultant buildings will be considerable.

We are discussing these things informally, to stimulate our imaginations. I suggest we should not stop with co-operation in offices: we must extend it to the buildings and to the works. If you have a large building in hand, you employ what specialists you like upon it that you feel necessary, then you put it into the hands of a first-rate contractor; he does not accept your specialists, he puts his own upon it, all the way through. Let me instance engineering. Take any great engineering contract, such as one for constructing an aqueduct, or a viaduct, or a railway. The consulting engineer will work his scheme out, he will employ all the scientific resources at his command, and will put the work into the hands of a contractor, and the contractor immediately does the same. The contractor's staff is as highly qualified and as highly equipped as is the consulting engineer's staff. Then the consulting engineer puts a resident engineer down on the works to watch the contractor's resident engineer. This is going on under our very eyes. We have carried out contracts with the assistance of one of these most excellent and delightful and splendid building organisations that we call a "contractor." I do not mean a small contractor who is struggling with difficulties, but the man who is master of his science of building. This co-operation does exist in the building trade, the specialists are brought together at the contractor's office, and the work is done by those men. What has to be supplied to him? It is representation of the client's requirements and a satisfaction of the architectural necessities of the case. And this is what the architect has to do. He must be a competent plan organiser, he must understand and direct, and describe in drawings and give details; and if he concentrates upon that he is doing at present what he is paid to do.

The experience of co-operation and enjoyment in the office, as described by Mr. Lanchester, has been mine. I was bred in a very large firm: my father was a member of a firm which consisted of four partners. There was a good deal of co-operation in that office. I passed from that into the office of a friend who has been dead a few years now, where we were a most happy party, the happiest, I think, that ever worked in an office. There was an extraordinary man there who would get more delight out of dealing with a party-wall difficulty than my chief would have derived from a water-colour drawing; and the charge of atmosphere and the pleasure of a good legal struggle for light and air came into the midst of this highly artistic office as an enjoyable episode. We worked with the quantity surveyors too: they came and worked in the office. We did not let the drawings go out, and that is a very pleasant and satisfactory way of getting work done. It is not always possible, but it is a way out of the sort of difficulty which often exists when the architect does not take out the quantities himself. But I must say, in making my confessions, that my own view is I do not care so much about 5 per cent., for those things right themselves. If you are out to make 5 per cent., you are welcome to do your best to get it, but it is not everything. What I want to confess is, that I never feel I can surrender the building to anybody else, or to any co-operation, for that matter. I feel that the specialist is only a specialist for my purpose of getting the work done. Of course, when it comes to engineering schemes, unless the architect is able to understand what the engineer proposes he ought not to undertake the work at all.

I hope Mr. Lanchester's idea will germinate in our minds, and when it eventuates in a company, which need not be labelled with any decorator's name, I will go in for it as long as I have a share in doing the thing that I get enjoyment from designing. Then the matter of the 5 per cent. will disappear, because the profit, in the long run, would be nearer 15 per cent.

MR. LANCHESTER (in reply): I think most of the criticisms which have been levelled at my head are due

to a difference of view as to what co-operation really means. I have co-operated with many brains, and I hope to co-operate with more. Take the case of the engineer to which Mr. Wigglesworth referred. When I have wanted to co-operate with an engineer I have made a point of the fact that the engineer brought his drawing alongside of mine, and as I threw him sketches of the thing I wanted he worked on them, and asked, "Does this comply with your architectural requirements?" That is the sort of thing we get in co-operation. In regard to legal liability, all the cards are on the table, and the co-operator says, "It is rather risky what you are doing there; will you not be liable for this if you do it?" If it comes to a point of that sort, it must be for those who co-operate to decide; and if it is an important point everybody will be concerned. There are many partnerships in the country, hundreds, some numerically large, limited and unlimited, which deal with things of that sort: there is nothing new in the principle. A criticism was made on the question of construction. If you will read my paper carefully, you will see I have not attempted to make out that construction is not architecture; I have merely said that on some of the points, like the selection of the best material, or something of that sort, another brain is worth consulting.

In the case of the architect and the client, which Mr. Wigglesworth referred to, I regard the man who negotiates with the client and "pulls the job off" as simply the pioneer of the firm. The man who does that too often says to himself, "I can put this job in my pocket, and I will get it done as cheaply as I can." That is why we see these appalling buildings in our streets. I want to show that such a man has a responsibility towards architecture, towards his profession, of which he is probably a respected member, and that he should help to form an organization in which "pulling a job off" is not regarded as the only thing which has to be done, that the building has to be designed. Mr. Jemmett and Professor Pite said I had missed something out: I don't think I missed out either of the points they mentioned, but I did not enlarge upon them. In reply to Mr. Jemmett, what I said was, "Granting that, broadly speaking" (etc.) In answer to Mr. Pite, I admit I did not emphasise as much, perhaps, as I ought to have done the possibilities in building without a contractor, but I am in sympathy with what he said on that subject. It means going a good deal further in organisation, and it would be more difficult to do. I merely put what I regard as the obvious steps we should take straight away, or at all events on the conclusion of the war, and even in this I may be over optimistic.

Mr. White made a considerable point of the 5 per cent. I say it does not so much matter, because we ourselves would earn another 1 per cent. by our superior organisation, if not a good deal more. Some men have told me that more than half their commission goes in office expenses. I think the suggested system would improve the working power which would be got out of men; to the extent, at all events, of 1 per cent. I am attaching very little importance to the financial details. We should be on the right side in any case. What I do attach importance to is the sort of life we should get. Mr. White referred to the client who comes and says, "These are my ideas, I only want you to put them into form." That is the man I like to see. He goes on doing it, and in the end he says: "This is a magnificent building: I designed it myself, and everyone is satisfied." I think you will follow the general trend of my feeling towards the criticisms, but I shall study them carefully, to see if I ought not to revise my views as to details, though, as I have said, I am hardly likely to alter them in principle, except, perhaps, to enlarge them in the direction Professor Pite indicated.

UNITED STATES TIMBER SUPPLIES.

By John R. Walker, United States Trade Commissioner.

[The following Memorandum upon the subject of the United States Timber Supplies available for use in the Reconstruction programme of the United Kingdom after the war was prepared by the author for the Timber Controller, and has been placed at the Institute's disposal for the information of architects.]

Southern Pine.

OUR Southern Pine Forest stretches along the coastal plain from Virginia to Texas and embraces the largest forest area in America. This forest embraces three sub-species of pine timber—viz., long leaf, short leaf, and loblolly, all of which we include under the term "Southern Yellow Pine." The long leaf pine is the timber which has been known in this market as pitch pine, and the short leaf and loblolly pines have been known in this market as North Carolina Pine.

The annual production of sawed timber from this forest area is in excess of 7,000,000 Standards, and it is estimated that this output can be maintained for a period of ten to fifteen years, after which it will decline. The chief characteristics of the long leaf pine are that it is of relatively slow growth, and consequently close grained, and possesses exceptional strength. Also it consists largely of heart wood as distinguished from sap wood, and contains a large quantity of pitch and turpentine, for which reasons it has great durability when exposed to moisture. The loblolly pine, on the contrary, is a tree of rapid growth, and consequently

wide grained, and is almost altogether a sap wood. It has less strength and less durability than long leaf pine, but is better adapted for use in joinery, as it is more easily worked, and takes paint better because it contains less pitch and turpentine. The short leaf pine occupies a middle place between the long leaf and the loblolly. Certain specimens approximate the long leaf pine and others the loblolly pine.

Southern Yellow Pine is the wood which we use more largely than any other for general housebuilding and construction work. For interior finish and joinery and for the carcassing of buildings we use those three woods interchangeably, and when we want exceptional strength we stipulate that the material must be close grained, and when we want exceptional durability we stipulate that the material must be free of sap. While it is the long leaf pine which most readily complies with these requirements, yet a short leaf or a loblolly timber which also complies with these requirements gives equal satisfaction. The test for strength is not the sub species to which the particular stick belongs, but the closeness of the grain, and the percentage of hard or summer wood; likewise the test for durability is not the sub-species, but the percentage of heart wood.

Douglas Fir or Oregon Pine.

Next to the Southern Yellow Pine forest, the forest area of the North Pacific Coast is the largest in the United States, and of this area the principal species is Douglas Fir or Oregon Pine. The other important commercial species are red wood or sequoia, Western hemlock, silver spruce, and Western red cedar.

The annual production of Douglas Fir is approximately 2,500,000 standards, and across the boundary line in British Columbia there is a further production of 400,000 standards, which must be considered along with the United States production of Douglas Fir, for the reason that it comes from the same forest area, and is manufactured to the same standards. It is estimated that the present annual production of Douglas Fir can be maintained for a period of 150 years, but in the natural course of things the annual production will increase, and the life of this industry be correspondingly decreased. Douglas Fir is used by us interchangeably with our Southern pine in all sections of the country where transportation considerations permit of competition between the two woods. Douglas Fir is a wood which is practically free of sap, and is consequently durable, although somewhat less durable than the best long leaf pine; its strength and its hardness is only slightly less than that of the Southern Yellow Pine.

The table showing the production of our principal commercial species of timber indicates all of the species which we are prepared to furnish in the export trade, but since our Southern Yellow Pine and Douglas Fir constitutes more than half of the total annual production of timber in the United States, and are the woods which are pre-eminently suited for use in general construction work, I shall confine the present discussion to these two species.

Probable Available after-the-war Supplies.

In both the Southern Yellow Pine and the Douglas Fir Forests the logging practice is entirely different from the practice that you are familiar with in Scandinavia, Russia and Eastern Canada. In the latter regions logging is a seasonal operation confined to the winter months, and the production of sawed timber during the succeeding summer months is necessarily limited to the supply of logs which are brought out of the woods during the winter.

In our Southern and Western forests, on the other hand, logging operations continue throughout the year, and within certain limits can be enlarged from time to time to correspond to the demand for sawed timber. The Douglas Fir being almost entirely free of sap, no difficulty is encountered during the summer months with respect to staining of sap wood, and in the Southern Pine forest the tendency of the sap wood to stain when the timber is felled during the summer months is counteracted by immersing the logs immediately after felling in fresh water mill ponds, where the logs remain until converted.

It is the general practice in both the Southern Pine and Douglas Fir milling industries to dry by artificial means immediately after sawing, all boards, planks, and small scantlings, although in the case of the scantlings perhaps half of the larger mills dry these in the open air by a process of open piling which prevents sap stain.

Normally the stock of converted timber on hand at the mills both in the South and the West will not exceed one month's production, but of course this varies from time to time according to the state of the market.

From the foregoing it will be seen that no safe conclusions can be arrived at as to the probable supplies available for shipment after the war, from a consideration of the stocks of sawed timber on hand, for the reason that in the vast majority of cases the timber would be felled, the logs converted, and the sawed timber dried after the order was received, as all of these operations normally would not require more than two to four weeks' time.

Our exportation of Southern Pine to all of Europe for the year ending 30th June, 1914, was approximately 350,000 Standards. The exportation of Oregon Pine to Europe was approximately 20,000 Standards. A doubling of our export to Europe of Southern Pine would involve an increase in production of only 5 per cent., or without any increase in production a similar curtailment of our domestic consumption. Our export of Southern Pine to the United Kingdom for the year ending 30th June, 1914, was approximately 115,000 Standards, or 1½ per cent. of the total production of these woods. Quadrupling of our export of

Southern Pine to the United Kingdom would therefore involve an increase in the production of this wood to less than 5 per cent. It is my opinion that, provided of course tonnage is available, and other considerations which I shall subsequently note, are overcome, we could furnish 250,000 Standards of Southern Pine for exportation to the United Kingdom during the twelve months following the close of the war, and annually thereafter for several years.

With respect to Douglas Fir, the exportation to the United Kingdom for the year ending 30th June, 1914, was approximately 17,000 Standards, or two-thirds of 1 per cent. of the annual production. In view of the fact that the production of Oregon Pine has not yet reached its peak, and in view of the tremendous available forest area, I think it can be fairly said that the exportation of this wood to the United Kingdom could be enlarged indefinitely, provided of course that tonnage is available. Making allowance for tonnage difficulties, I think it might be roughly calculated that in the year following the conclusion of the war there would be available for importation into the United Kingdom one half as much Oregon pine as the above estimate of pitch pine—viz., 125,000 Standards.

American Standard Sizes.

Unquestionably in the past a bar to the larger importation of American soft woods for use in general construction work in the United Kingdom has been the fact that your architectural practice in the use of timber does not coincide with our building practice, nor with our system of timber manufacture.

The fundamental reason for this, as I see it, is that your building practice has grown up around the soft woods from the Baltic, and your standard of sizes has been adapted to the physical properties of these woods, whereas in recent years, since we have been building with our Southern and Western pines, our building practice and our standard sizes have been reduced below the standards which prevail here, because in our opinion they more correctly reflect the physical properties of the woods we use.

Without at this time going into all the details of the subject of standard sizes, a general view of the situation may be given by the statement that the usual practice in our Southern and in our Western pine industries is to manufacture all material to even feet in length and to even inches in width. The "stock sizes" are 4, 6, 8, 10 and 12 inches in width, by 1, 1½, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 12 inches in thickness, by 10, 12, 14, 16, 18, 20 feet in length and over. The custom with the saw mills is to set their saws to produce the dimensions above given in the green timber. These stock sizes are then piled for drying—the smaller sizes and boards being frequently artificially dried by dry kilns—and in the process of drying the timber shrinks slightly below the sizes above named. The rate of shrinkage in these woods is not as uniform as in the slower growing Baltic and Canadian woods. Consequently the general practice is to run these dry boards, scantlings and joists through a planing or equalising machine, which finishes them to a size which is of course somewhat smaller than the scant sizes of the rough dried material above indicated. In other words, a 6 by 2 joist would be that exact size when it came from the saw mill; after it had dried it would perhaps be $5\frac{3}{4}$ inches by $1\frac{7}{8}$ inch. The standard or finished size of a 6-inch joist is, however, $5\frac{5}{8}$ inches, which is arrived at by running the stick through a planing machine and planing one edge so as to produce this dimension. When desired, one side of the joist is also planed without extra charge down to the standard size of $1\frac{5}{8}$ inch. The standard size of all scantlings and joists is likewise $\frac{3}{8}$ of an inch scant of the nominal green size. All inch lumber is finished to 13/16 of an inch in thickness, and when the edges are planed the standard width is ½ inch scant of the nominal green size. Flooring strips are 13/16 of an inch in thickness, and $2\frac{1}{4}$, $3\frac{1}{4}$, $5\frac{1}{4}$ face measure, exclusive of the tongue, and all of this material is tongued and grooved. The nominal green size of the flooring strip which produces a piece of flooring 13/16 by $3\frac{1}{4}$ inches in width is 1 by 4.

Elaborate tests have been made by the United States Forest Products Laboratory and by the Canadian ForestServiceto determine the strength of various woods, and these tests indicate that the Southern pines are from $33\frac{1}{3}$ per cent. to 50 per cent. stronger than Canadian and Baltic yellow pine, red pine, and spruce, and that Oregon pine is 25 per cent. stronger than these Northern woods. I have also seen the results of special tests made in this country for various purposes, which confirm the general comparisons above given. It therefore appears that while a 6 by 2 Southern pine joist dried and finished to $5\frac{3}{8}$ by $1\frac{7}{8}$ would contain $12\frac{1}{2}$ per cent. less cross section or cubic area than a 6 by 2 Baltic or Canadian red wood or white wood full size joist, yet it would possess the equivalent strength of such a joist, and, in fact, something like 15 per cent. more strength.

English Practice in the Consumption of Wood.

In general construction work it is the practice of British architects and engineers to specify various sections for joists, scantlings, and so forth, which are to be found among the ordinary stocks of Baltic and Russian woods. This practice is set out in various English works on building construction, in various works regarding timber, and in building by-laws of various towns and cities.

The chief difference between the British practice and our American practice is that the sections which British usage prescribes are materially larger than the sizes used in American practice, and also the sizes specified in British practice must be full-size material, whereas under our American practice the actual finished size of various scantlings is somewhat scant of the nominal size, as has been heretofore explained.

ADVANTAGES TO BE GAINED BY PROVIDING FOR THE USE OF AMERICAN STANDARD SIZES IN AMERICAN WOODS IN THE AFTER-THE-WAR BUILDING PROGRAMME.

Generally speaking, the importation of American soft woods has heretofore been confined to large timbers which cannot be obtained elsewhere, and to sawed deals and boards specially manufactured for this market, to measure full size after drying.

Not more than 5 per cent. of the saw mills in the United States have heretofore catered for the export trade, chiefly for the reason that it is difficult to co-ordinate the export trade with the domestic trade, except where the mill is in a position to saw upon a large scale. The consequence is that the English importer has not been able to draw upon the enormous stocks of converted sizes of soft woods which are always on hand at our mills, but has had to confine his purchases to the limited number of mills which have engaged in this business, and it is the general practice among the export mills to secure orders for export stock before manufacturing this stock. The result is that export stock is to a large extent shipped green, whereas our domestic stock is to a very large extent shipped dry, which is a large advantage from the standpoint of the actual consumer of the timber.

Furthermore, the selling price of export stock is, generally speaking, above the level of the corresponding grades of our domestic stock, for the reason that the export stock is specially manufactured and must be charged with the expense incident thereto, and also with the loss which is involved in reducing to our standard finished sizes the degraded material which is not good enough to be shipped for export.

If in the after-the-war building programme English architects see fit to provide for the use of American Standard Sizes, when American woods are used, it will be possible to purchase material from any saw mill in America—and there are 40,000 of them. Dry stocks will always be available, and by shipping our finished material a considerable saving in tonnage will be effected, which together with the saving in the original cost of the material will probably amount to a saving in the delivered cost of £4 per standard.

Furthermore, the standardisation of grades in the domestic trade has been developed to a very much finer point than in the export trade, the grades are more numerous and more specific, and there is a well organised inspection bureau operated by the Association of Manufacturers, which supervises the grading of individual mills to see that the standard grades are maintained. In the export trade, on the other hand, while there are published rules, these rules are very general in their descriptions, and there is no inspection bureau which supervises the grading of export stock.

Unquestionably, generally understood grades and the strict maintenance of grades would conduce to the extension of the trade between our country and yours and would result in a substantial monetary saving to both sides. Adoption of our standard sizes and our domestic grading would be a long step in this direction.

I propose to send you as soon as they are received from the other side copies of the standard domestic grading rules on Southern yellow pine, but meanwhile I can explain these grades in a general way as follows:

A Grade is a grade which is free of all defects. B is a grade which only admits very small defects. No. 1 Common is a grade which admits sound knots which do not affect the strength or general utilisation of the piece in question. No. 2 Common is a grade which admits large knots and other defects which, however, do not destroy the availability of this material for cheaper forms of construction work. It is a grade which about corresponds to the material which is used in the English market for box-making purposes. No. 1 Common about corresponds with a Swedish No. 3. B Grade would about correspond with the best material which is obtainable in the Baltic. In none of the grades above described is bright sap regarded as a defect. When all-heart material is wanted this must be specified, and it involves an extra cost of £2 to £4 a standard.

Heretofore the English market has demanded practically sap free material, but I am convinced that this has resulted from the fact that, as above explained, our export stock is specially manufactured and shipped green, and if sap material is shipped green it becomes stained in transit, and is unsatisfactory to the user. Where the material is dried before shipment, however, sap material is equally as serviceable as heart material for all purposes which do not involve exposure to moisture.

From the above it will be seen that there are three factors which will make for a large saving in cost if American grading and American Standard Sizes are adopted in the English market. First, because it will not be necessary to manufacture this stock specially; secondly, there will be a large saving in freight cost by shipping converted sizes and dry stock; and, thirdly, by making possible the utilisation of a very much larger proportion of bright sap material instead of practically all-heart material as heretofore.

FLOORING.

The English practice with respect to flooring in ordinary house construction is to build floors of 5½ inch and 6 inch Baltic red or white wood, which is square edged and full of knots.

The American practice is to manufacture all flooring tongued and grooved and from narrow strips, for the reason that narrow strips practically free of knots can be obtained at a comparatively small cost, and we like material free of knots, because we use rugs very largely instead of carpets, which leaves the flooring exposed to view.

The standard sizes of American flooring are 2¼ inch face, which is manufactured from a 3 inch strip, and 3¼ inch face, which is manufactured from a 4 inch strip. The finished thickness of our flooring is $\frac{13}{16}$ inch instead of $\frac{7}{8}$ inch, as is customary in England, but in our harder pitch pine and Oregon pine $\frac{13}{16}$ inch will afford very much more wear than $\frac{7}{8}$ inch in the softer Baltic woods. When no stipulation is made as to the position of the grain in flooring we describe the material as flat grained. When material is wanted in which the grain is vertical, we describe it as quarter sawed, or as edge grained, or as vertical grained, and we charge from £2 to £4 per standard more than for the ordinary flat grained flooring.

Doors.

Another important item is Doors. Heretofore the cheap doors which the English market has consumed have come almost entirely from Norway and Sweden. In America we make millions of doors from our Southern pine, from Oregon pine, and from white pine, which you know as yellow pine, but the difficulty which has stood in the way of shipping cheap doors to this market is that our door is a dowelled door, whereas this market has become accustomed to the mortised door, and no one has seen fit to undertake the task of introducing the dowelled door.

I have discussed the relative merits of the dowelled and the mortised door with large door merchants and with building contractors in the United Kingdom, and almost without exception they have agreed that a properly made dowelled door is every bit as strong and as serviceable as the mortised door. As indicating the strength and durability of dowelling, my attention has been directed to the fact that nearly all of the fine old English furniture was dowelled, and this has lasted through the centuries.

One advantage that the American door has over the Swedish door is that it is made from knot-free material and therefore presents a much more attractive appearance when finished in its natural colour. For all interior purposes our Southern pine and Oregon pine doors are from every standpoint equal to the Swedish door. For front doors our white pine door is to be preferred.

Preferred Uses for Various American Woods.

For all interior constructional purposes our Southern pine and our Oregon pine are the most available, and are equally as suitable as any other woods. In work which is exposed to the elements, and for use in direct contact with moisture, the wood *par excellence* is cypress, and after it sequoia, and Western red cedar. Also all-heart pitch pine and creosoted Oregon pine and Southern pine. I shall not discuss the special uses to which our large variety of hard woods are adapted, as America is already the chief source of supply for hard woods, and their uses are very well appreciated in this market.

Prices and Shipping Arrangements.

Of course, any statement as to the probable f.o.b. price of American timber at the conclusion of the war, or of the probable tonnage available for transporting it to these markets, is pure conjecture. Taking into consideration the prevailing prices of American timber, and assuming that they will increase somewhat at the conclusion of the war, my own guess is that the average price of Southern pine lumber f.o.b. vessel at the Gulf Ports for mill run material, excluding culls, and containing 10 per cent. of A, 15 per cent. B, 35 per cent. No. 1 Common, and 40 per cent. No. 2 Common, at the conclusion of the war will be £16 per standard.

The cost of transportation to Great Britain will, of course, depend upon the tonnage then available, or upon the rates of carriage fixed by the British and American Governments if they continue to exercise control over ocean shipping after the war; but as a working hypothesis it might be assumed that the present tonnage will be maintained until the end of the war, and that ocean rates will decline below the present open rates to the extent that such rates are influenced by the war risk which the vessel owner must pay upon the vessel. The open rate from the Gulf to the United Kingdom immediately following the conclusion of the war will hardly be less than £20 a standard. How much this rate will be diminished through Governmental action it is, of course, impossible to say.

With respect to the question of who shall provide the tonnage for the transportation of American timber to the United Kingdom after the war, I assume that an agreement would be reached somewhat along the following lines: The English and American Shipping Controllers respectively would allocate to the timber trade a proportion of the total tonnage available which would be approximately the same as the proportion which the timber tonnage bore to the total tonnage in 1913, and that the American sellers would undertake to provide for the transportation of a proportion of the timber sold to the United Kingdom which would be equivalent to the proportion which American tonnage bears to the total tonnage of the two countries at the end of the war, and the British buyers would provide for the transportation of the remaining portion.

Average Annual Production in the United States of Sawed Timber of the Principal Commercial Species.

American Name.	English Name.	Standards.
Ash		100,000
Basswood	Whitewood	135,000
Beech		190,000
Birch		220,000
Cedar		250,000
Chestnut		275,000
Cottonwood		100,000
Cypress		510,000
Douglas Fir	Oregon Pine	2,500,000
Elm		110,000

Hemlock		1,100,000
Maple		500,000
Oak		1,700,000
Poplar	Canary Whitewood ...	260,000
Red gum	Satin Walnut and Hazel Pine	400,000
Redwood	Sequoia	275,000
Spruce		625,000
Western Pine ...	Yellow Pine	700,000
White Pine ...	Yellow Pine	1,300,000
Yellow Pine ...	Pitch Pine and N.C. Pine	7,250,000
All other		600,000
Total...		19,100,000

EXPORT OF HEWN AND SAWED TIMBER (INCLUDING RAILWAY SLEEPERS AND LOGS) FROM THE UNITED STATES DURING THE YEAR ENDING 30TH JUNE, 1914.

Total Export	1,630,000	Standards
Total Export to Europe ...	500,000	,,
Total Export to the U.K. ...	265,000	,,

AVERAGE ANNUAL PRODUCTION IN CANADA OF SAWED TIMBER OF THE PRINCIPAL COMMERCIAL SPECIES.

American Name.	English Name.	Standards.
Spruce		750,000
White Pine ...	Yellow Pine	400,000
Douglas Fir ...	Oregon Pine	400,000
Hemlock		155,000
Balsam Fir		100,000
Red Pine (very similar to Baltic Redwood)	... ...	75,000
Cedar		50,000
Tamarack...		50,000
Yellow Pine (botanically of the same family as Pitch Pine but structurally similar to Baltic Redwood)	... ...	25,000
Jack Pine (an inferior scrubby pine)	... ...	17,000

IMPORTS OF HEWN, SAWN, AND SPLIT WOOD (EXCLUSIVE OF PIT PROPS) INTO THE UNITED KINGDOM DURING 1913.

1,241,212	Standards from	Russia
464,763	,, ,,	Sweden
107,079	,, ,,	Norway
35,064	,, ,,	Germany
249,685	,, ,,	U.S.A.
330,394	,, ,,	Canada
68,417	,, ,,	other countries
2,496,614		

REVIEWS.

THE CONCEPTION OF ART.

The Conception of Art. By Henry Rankin Poore. Second Edition, revised. Large 8*o.* 1914. 8*s. net.* [*G. B. Putnam's Sons : New York and London.*]

It may be doubted whether books on the æsthetic theory of Art have any great practical influence on artistic production, either for good or evil. There have been so many of them, and they differ so much, and each author is so sure that he is right and that all other theorists are wrong, that they tend to cancel each other ; and artists, if they read them at all, agree with or differ from the views expressed, and proceed with their own form of art-production unmoved. Art, they think, is a matter of doing, not of talking ; and talk does not help much.

Such books are likely rather to be read by amateurs who are interested in art ; and they often are, in fact, very interesting reading, and may influence the views of the public as to what is to be expected from art, if they do not directly influence the work of the artist, and hence they may have a certain educational value. The book under notice may claim some favour on both grounds. Though not in a very good literary style—sentences are sometimes so clumsily expressed as to leave one a little in doubt as to the author's precise meaning—it is certainly interesting reading, and it contains a good deal of suggestive thought. The real merit of the book is implied in the opening sentences : "A work of fine art results when man expresses the quality of whatever he designs for his æsthetic and intellectual pleasure. Quality signifies essential character. Art is the expression of the essential character of a subject." That gives the keynote of the author's argument throughout ; and it is a perfectly sound position. Art does not consist in the accurate representation of a subject (though that may be taken as a preliminary condition), nor in the choice of a subject as "beautiful," but in the manner and the degree in which its essential character is expressed. It is not so much the question *what* is represented as *how* it is represented. And in emphasising this point of view we avoid entirely the endless and fruitless discussions with which mankind have vexed themselves in regard to the conditions which constitute beauty in a work of art. When we are told that the object of art is to produce what is beautiful, we are at once faced with the unanswerable question : "What is beauty? How do you define it?" And we find that no one can define it. As the author remarks on another page :

> That beauty is the first cause of art is the confusing and confounding notion over which philosophers have wrangled from the days of Plato and Aristotle down to the last dictum by Tolstoy. . . . The artist does not set forth to create beauty, but rather to give expression to a thought or emotion. In moulding this in a manner which to his own mind is most effectual he falls back on certain intellectual processes expressed in the principles of art. This usually results in something which the world calls beauty, and the more skilful does his hand become in expressing his mind the more beauty does the work contain.

He had better have said "the more interest does the work contain;" after dismissing "beauty" with costs he had better have avoided playing with the word again ; and "expressed in the practice of art" would have been better than "in the principles of art" ; "principles" is almost as elusive a word as "beauty." The sentence is one of the examples of the fact that the author is not always very clear in expressing what one takes to be his meaning. But if one could once get into the head of the exhibition-going public that essential character and expression are the qualities that give value to a work of art, they would have a better idea than they seem to have at

present as to what makes the real difference, for instance, between a good and a commonplace picture.

Although beauty is indefinable and therefore not to be classed as the main object of art, we may very well feel that ugliness, if not exactly definable, is a quality that may be painfully felt, and that there are subjects which no amount of "essential character" in their treatment can reconcile us to. When Rodin chose to sculpture a nude woman (of the lowest type, too) in extreme old age, he gave us what none of us want to see, and what is much better covered up: no amount of "character" can make such a subject tolerable; it is an offence against good taste, and good taste counts for something in art. Concerning the inanities (or insanities) of the Futurists and post-Impressionists of to-day the author has much to say, and though he does not exactly defend them, and apparently regards it as a temporary aberration, he devotes to a dispassionate criticism of these absurdities far more space than the subject was in any way worth, in a manner which leaves one rather doubtful as to his critical balance of mind. Little attention is paid to architecture, and that little is rather in the direction of finding that architecture is too much hampered with considerations of utility to claim admission as an art, and that (contrary to an often expressed opinion) "Art is the handmaid of architecture and not basal." By his remark just previously, that when we enter a building "we find rooms for living, halls for entrance and exit arranged for man's convenience," we gather that he has no conception of the fact that there is an æsthetic element in planning; that an architectural design is really the outward expression of an idea in plan and section; and that an architecturally feeble plan will never make an architecturally fine building; but as the Council of the Royal Academy seem to be equally negligent and indifferent on this head, and evidently regard plan and structure as of no consequence in the illustration of architecture, perhaps one can hardly expect a literary writer on art to be better informed. In short, Mr. Poore does not quite realise what architecture means.

The book contains a good many explanatory illustrations, a rather mixed and eccentric collection; the place of honour as a frontispiece being given to a photograph of Carpeaux' "La Danse," a very fine and remarkable work, but hardly perhaps worth selection as specially typical of the triumphs of art. A minor defect in the book is that though there is a list of the illustrations there is no sort of index to the literary matter. The printing and make-up of the book is in every way creditable to the eminent publishing firm who issue it.

H. Heathcote Statham [*F.*].

THE EDGAR CHAPEL, GLASTONBURY.

The Gate of Remembrance. By F. Bligh Bond, F.R.I.B.A. 8o. 1917. *Price* 6s. [*B. H. Blackwell, Oxford.*]

This book purports to be "a record of remarkable archæological discoveries directed by means of a method of automatic writing scientifically applied." Both from a psychical and archæological point of view it is of profound interest. It deals mainly with the discovery of the Edgar Chapel at Glastonbury Abbey.

The east end of the Abbey Church and its arrangement of chapels has for many years been a subject of controversy. Leland in his *Itinerary* says: "Abbate Beere buildid Edgares Chapel at the Est End of the Church, but Abbate Whiting performed sum part of it." Phelps in his *Somerset* shows a short projection at the East End with an apse, but calls it "the Lady's Chapel." A transcript of a report made to Queen Elizabeth by a Commissioner gives a series of measurements: "The great Church in the Aby was in length 594 as followeth: *The Chapter House*, in length, 90 foot. The Quier, in length, 159 foot; in breadth, 75 foot. The bodie of the Church, in length, 228 foot. The Joseph's Chapel, in length, 117 foot." The question in dispute was what was Leland's Edgar Chapel? Phelps' "Lady's Chapel"? the Commissioner's "Chapter House"?

In 1866 Professor R. Willis, in his *Architectural History*, came to the conclusion that there were five eastern chapels and draws the central one as projecting about 12 feet, which he supposes was Leland's Edgar Chapel. Mr. James Parker in 1880 inclined to the view that this Edgar Chapel was in the south transept, to the east of the nave. Professor Freeman believed that there was an eastern chapel of considerable dimensions, perhaps a Lady Chapel, but only expressed this view verbally at a meeting in the Abbey. In 1903-4 Sir William St. John Hope, arguing from William Wyrcestre's statement: "Spacium de le reredes ex parte orientali magne altaris sunt 5 columpnœ seriatim et inter quamlibet columpnam est capella cum altare," thought that this meant four chapels against the east wall of the retrochoir, as at Abbey Dore. Finding no traces of foundations on excavating he concluded that there was no such extension of a central chapel. This seemed to settle the matter.

In 1907 Mr. Bligh Bond reviewed the whole question again. He studied all the available mediæval writings and those of the seventeenth, eighteenth and nineteenth centuries, and gave careful attention to all existing plans and sketches of the buildings. As a result he felt strongly that this Edgar Chapel which Leland spoke of as the work of two abbots must have been a work of some importance. But the available evidence could carry him no further. It was now that he determined to cultivate the imaginative faculty and to make use of a friend's powers of automatism. A series of sittings took place at irregular intervals and extended from 1907-1911, 1912, and more recently. The method of procedure was to remain passive, avoiding concentration of mind upon the writing and to talk casually of indifferent matters. While his friend held the pencil, F. B. B. steadied the paper with one hand and the other he rested lightly on the back of his friend's hand. The result was a

series of most remarkable scripts, which are given at length in these pages. From these he learned:

(1) That Abbot Beere built a large rectangular chapel to the east of the retrochoir and called it the Chapel of St. Edgar.

(2) Abbot Whiting added to this an angular apse in the east wall of which was a door.

(3) The length of the chapel was 30 virgas or yards, and it was 27 feet wide, and of 4 bays.

(4) The windows were filled with blue glass.

(5) The chapel was vaulted with fan vaulting.

(6) It was approached from the retrochoir through an ante-chapel from which a stairway, divided by a handrail, led to the chapel beyond.

Excavation commenced in 1908 and the writer of this review was present at the first digging. He was astonished at the apparent ease with which Mr. Bligh Bond at once came down upon the S.W. angle of the west wall of the chapel, and remarked upon it at the time. When fully excavated (3) the internal length measurements proved to be 87 feet; this, allowing for 3 feet for the thickness of the end wall, gives the 30 yards of the script. The clear internal width of the chapel between the footings was about 18 feet, and, as the footings were about 7 feet in width, the whole external width was about 32 feet. Measuring internally into the recesses of the windows would give us the clear internal width of 27 feet of the script.

(2) At the east end of the chapel were found the footings of an angular apse with a gap for a door at the east end.

(4) In the trenches were many remains of azure blue glass. (5) There was also found a vaulting boss on the back of which lines were scratched for the setting out of 12 ribs, implying a wheel of tracery between fans.

(6) The chapel proved to be 7 feet higher than the retrochoir, necessitating a slope or flight of steps, and amongst the *débris* close by was discovered a double-handed stone rail. Hence the excavations proved the correctness of the script This is remarkable, to say the least of it; but the sceptic or unbeliever is open to say the excavation was first made and this story trumped up to account for the discovery. Against this objection we have printed a letter from the Hon. Everard Fielding, Secretary of the Society for Psychical Research, testifying to the fact that the script had been seen by him some months before the commencement of the excavations.

But to convince the unbeliever Mr. Bligh Bond, with great candour, has published in this book the script referring to the Loretto Chapel. The only evidence for such a chapel is Leland's statement that "Bere cumming from his Embassadrie out of Italie made a Chapelle of our Lady de Loretta, joining to the North side of the body of the Church."

The script gives the further information that the Abbot, who was riding upon a mule, was attacked "by evil men," and the mule fell. He was in danger of falling over a precipice and he called upon Our Lady. He was saved by his cloak catching in a thorn tree. He then and there vowed that he would build a chapel to Our Lady of the Loretto on his return to Glastonbury. This chapel, the script informs us, was on the north side of the nave and measured 40 feet by 20 feet, with a door at the west end. It was built on a lower level than the church and was approached by a vaulted passage or cloister built against the west wall of the north transept. The style of its architecture was the new or Italian style of four bays, with a small eastern apse and was modelled upon a chapel of St. Mark at Padua, situated near the Quay. It had round vaults, and the foundations of the chapel lie beneath the bank on the north side of the Abbey Church.

No excavations have been yet made upon this site, but we at once ask, is there such a chapel at Padua? Cesare Foligno does not refer to one in his *Story of Padua*, but an ancient map of the town figures a chapel of St. Mark not far from the river and near the mediæval bridge of St. Mathio.

It remains for this site to be fully excavated to prove the full importance of the script and Mr. Bligh Bond's whole theory. There are difficulties in the way of such an excavation, but none which cannot be overcome. The importance of the matter, both from a psychical and archæological point of view, demands this excavation in the very near future, and it is to be hoped that full opportunities will be given for it.

In this book we seem to see the monks of Glastonbury, who loved their secluded stronghold of the Christian faith with a dynamic love, mourning over its present state, and watching with the keenest interest the work of those of to-day who care for its past history, and ready to communicate to them the story of its ancient grandeur.

Mr. Bligh Bond does not favour "the ordinary spiritualistic hypothesis which would see in these phenomena the action of discarnate intelligences from the outside upon the physical or nervous organisation of the sitters." Rather would he believe "that the embodied consciousness of every individual is but a part of a transcendent whole, and that within the mind of each there is a door through which Reality may enter as Idea, Idea presupposing a greater, even a Cosmic Memory, and involving wider fields and transcending the ordinary limits of time, space, and personality." In fact, that there is a great storehouse of Memory, the treasures of which are available to those who are in complete sympathy with any object and have exhausted all available sources of information. The Gate of Remembrance is ever ajar: let him who will and can enter in. Feed the imagination with truth and it will evolve truth. And through the door of truth may enter that which will guide us to a wider knowledge. Here we view at a distance wonderful vistas, and it may be that the author has shown to the student another store of knowledge yet untouched.

In reading this book we seem to see the great possi-

bilities offered to an imagination which has fed upon all available evidence. As we ponder over this evidence and endeavour to draw conclusions from it how often great ideas occur to us, "splendid guesses." May not these be no guesses at all, but truths conveyed to our memory from that great storehouse of Memory by unseen agencies? All who have worked and thought and trained their imaginations have been conscious of these new ideas. We may call them imaginative writers, we may dub their theories "pure imagination," but need we be surprised if, after all, they are nearer to the truth than we are? We are of the earth earthy: they have had the eye of their imagination opened and truths have been revealed to them which were hidden from our eyes. We realise this power in our poets and great preachers when we call them "inspired." Can we deny this same power to our archæologists and men of science? Personally, I think not

G. W. SAUNDERS (Rev.)

Martock Vicarage, Somerset.

PASTEL PAINTING.

The Art of Painting in Pastel. By J. Littlejohns, R.B.A., and L. Richmond, R.B.A. With Frontispiece and Foreword by Frank Brangwyn, R.B.A. 4to., Lond. 1917. 12*s.* 6*d. net.* [*Sir Isaac Pitman & Sons, Ltd., 1 Amen Corner, E.C.*]

"The Art of Painting in Pastel" is a book for students, written and illustrated by two well-known members of the Pastel Society, Messrs. J. Littlejohns, R.B.A., and Leonard Richmond, R.B.A. Both are experienced teachers, and they have produced an admirable volume which should prove a welcome addition to the art manuals already published by Sir Isaac Pitman & Sons. The plates are printed in colour, which preserves much of the delightful technique of the original drawings. They are accompanied by simple and lucid descriptions of the artists' procedure, and some helpfully illustrate the progressive stages of their development. Mr. Frank Brangwyn, A.R.A., has contributed the excellent frontispiece and a stimulating introduction, where he refers to the unrivelled merits of pastel as a means of recording the illusive qualities of nature. The two last chapters contain much practical advice and information on the preservation of pastels and on the choice of materials. The volume consists of 190 demy 4to pages comprising forty full-page illustrations in colour and fifteen in black-and-white. It is an attractive volume, and in view of the decorative possibilities of pastel, its study should appeal to architects.

HERBERT WIGGLESWORTH [*F.*].

THE LATE FREDERIC CHANCELLOR [*F.*].

By the death, on January 3rd, of Frederic Chancellor, of Chelmsford, the Institute has lost one of its oldest, if not its oldest member.

Born at Chelsea in the year 1825, the third son of John and Rebecca Chancellor, he was educated at a private school at Kingston-upon-Thames, and subsequently went to the London University, under Professor Donaldson, where he obtained, in the term of 1844-45, the First Prize in the class of Architecture as a Science, and the Second in that of Architecture as a Fine Art. He continued his studies as a student of the Royal Institute of British Architects and served his articles with Mr. A. J. Hiscocks, an architect practising in the City and in Southwark. He subsequently worked in the offices of several London architects, the last being in that of Mr. Ewan Christian, the late architect to the Ecclesiastical Commissioners. Mr. Chancellor went to Chelmsford at the instance of the late Mr. Beadel in 1846, and was in partnership with him and his son, the late Member of Parliament for the Chelmsford Division, until 1860. In that year he opened offices in the City of London in conjunction with his Chelmsford business, and was in practice up to the time of his death, for the last twenty-two years being in partnership with his son, Wykeham.

During his architectural career he was very largely engaged in almost every description of work, including the building and restoration of upwards of sixty churches, about fifty banks in different parts of England, a large number of farmhouses and homesteads, very many parsonage houses and private residences, many schools of all descriptions, several corn exchanges, maltings, mills, blocks of dwellings for the working classes, technical laboratories, numerous cottages and other buildings.

In 1871, upon the passing of the Ecclesiastical Dilapidations Act, he was appointed one of the Diocesan Surveyors for St. Albans, which he held until 1902, when he resigned, being succeeded by his son. He was appointed architect to the Diocese of St. Albans upon the death of the late Mr. Joseph Clarke. He was elected an Associate of the Royal Institute of British Architects in 1864 and a Fellow in 1870; he was also elected a Fellow of the Surveyors' Institution in 1870.

Mr. Chancellor was one of the original promoters of the Essex Archæological Society in 1852, and was a Member of the Council up to the time of his death. In 1890 he published an important work upon the Sepulchral Monuments of Essex, and contributed many articles upon churches and kindred subjects to the *Essex Review* and other publications. In 1854 he was elected a member of the Chelmsford Local Board of Health, and remained so until 1858, when he was appointed surveyor to the Board, which office he held until he resigned in 1865; he was re-elected to the Board in 1865, and continued a member until 1888; from 1882 he was Chairman of the Board. In 1888 the Queen granted a charter of incorporation to the town and the new authority superseded the old one. Mr. Chancellor was elected the first Mayor, and has been re-elected six times since, having been Mayor in the late Queen Victoria's Diamond Jubilee year and

in King Edward's Coronation year. He was elected an Alderman in 1891.

Mr. Chancellor was the first to sign the roll of the Chelmsford Volunteers in 1859 and passed through the various grades, retiring with the rank of Lieutenant-Colonel in 1892, when he was awarded the V.D. medal. He was a member of the Court of Assistants of the Coachmakers' and Coach Harness Makers' Company of the City of London, and served the offices of Junior, Renter and Senior Warden, becoming Master of the Company in 1878-79. He had been a Justice of the Peace for the County of Essex since 1889. He was co-opted by the Essex County Council to serve on the Technical Instruction Committee and at the time of his death was a member of the Essex County Education Committee. He had also been a Governor of the Chelmsford Grammar School, and was for some years churchwarden of the parish.

Throughout his long and active life there were few matters of local importance in which Mr. Chancellor did not take a leading part. Possessed of great business capacity and keen technical knowledge, as well as extraordinary powers of application, which, despite his great age, he retained to within a few months of his death, he was ever ready to assist in anything which tended towards the promotion of the interests and welfare of his town and county, and his loss will be widely felt.

WYKEHAM CHANCELLOR [*F.*].

Chelmsford: 1st February, 1918.

2ND LIEUT. WM. WYLIE HOUSTON, R.E. [*A.*].
Killed in action 17th August, 1917.

"*How are the mighty fallen—*
Giving much glory
Unto the earth their mother,
But from me
Taking how much more glory,
The glory of friendship—
God of Battles,
What heart have I left for thee?

"*Beautiful in their lives*
The singer telleth;
And in their deaths how splendid,
Oh, who can tell;
How in glorious death I love them,
How can I say—
I who in life
Loved them unspeakably well?"—WEAVING.

So writes one of our young poets, of a friend who fought with him in France. Both tasted of the horrors of the war which is depriving us of so many noble young lives, lives for which great things had been predicted had the selfishness of those whose doctrine is that might is right not intervened and interrupted their peaceful careers. Such lives are not lost, their examples are an inspiration to those who follow, and such was the life of the late Wm. Wylie Houston now "fallen, giving much glory unto the earth," his "mother, but from me taking how much more glory—the glory of friendship." Certainly in life he was a true man, a trustworthy friend, greatly gifted, yet simple as a child and in his death how splendid!

In the October number of the JOURNAL a photograph of the subject of this sketch appeared, and as I came into close contact with him, both professionally and as a friend, I would ask the Edtior's indulgence that I might mention some facts regarding his career.

He was born at Ashley Carnmoney, Co. Antrim, on the 23rd February, 1887. His father was Mr. Thos. Houston, J.P., a gentleman connected with the iron trade in Belfast, and who also owned large farms in the above county and for a lengthened period was a member of the Antrim County Council. His mother was a member of the Wylie family of the same county, the sister of five brothers who have attained distinction in the learned professions.

The officer whose loss I, in common with his many friends and professional associates, deplore was educated at the Belfast Royal Academy and afterwards at the Academical Institution. It was in connection with this latter school that his skilfulness in drawing first became manifest, and it was here that his career was chosen, for his father then noticed the trend of the boy's mind, when he saw some drawings he had copied, and he determined to educate him for the architectural profession. Subsequently he served his apprenticeship with Mr. Thos. Houston, Kingscourt, Belfast, and afterwards became his chief assistant.

It is unnecessary, here, to give in detail a list of the offices in which he served in Belfast, in Dublin, and in London, but in the course of a varied experience he came to the writer as his chief assistant, and he can testify that the profession has suffered a great loss, in fact all his employers looked upon him as a coming man. His skill as a draughtsman was almost unique, and some of his best work has been presented to Campbell College, Belfast, where it is to hang in the class-rooms as an example for such of the boys as are destined for an artistic career.

However, notwithstanding his rare skill and exceedingly hopeful prospects, he decided it was his duty to volunteer for the Army: no pressure in this direction was brought to bear on him by his friends. His conscience said, "Go," and he obeyed. Consequently he joined the O.T.C. at the Queen's University, Belfast, and was appointed 2nd Lieut. in the Royal Irish Fusiliers on the 8th January, 1916. At the Holywood school of instruction to which he was then sent the Commandant reported him to be "specially good at map reading and field sketching," and had hung up a plate of conventional signs drawn by him as an example of good work. Nor was his excellence from a military point of view confined to drawing alone. He was also distinguished for his marksmanship, and at the Newtownards range was awarded a medal for the second best score which at that time had been recorded.

I do not stop to notice the exchange into the Royal Engineers, a corps for which he was eminently suited, both by taste and attainments, and in which I am convinced, had he been spared, he would have risen to eminence. Instead, I close by a word on his character. Though gifted above many, no word of egotism ever escaped his lips. He bloomed in the shade. Everywhere he was liked, and I endorse with emphasis extracts from the letter of his superior officer, who wrote of his death :

" A great favourite."
" A splendid helper."
" A brave and gallant soldier."
" A good friend."

Belfast. JAMES A. HANNA.

CORRESPONDENCE.

The Comacine Masters.

Eagle House, Wimbledon : 28th January, 1918.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Professor Prior, in your JOURNAL of this month, alludes to what I said about the *Magistri Comacini* in my review of Mr. Porter's book. Like Professor Prior, I have since read Mr. Ravenscroft's book, and remain unconvinced. Beyond the fact that there was a Guild of Comacine Builders or Architects, we know next to nothing about them. That they were a survival of a Roman *collegium* of operatives is likely enough, but they would in that case be only one such society among many. On this slender foundation Leader Scott and Mr. Ravenscroft rear the stupendous theory that they were the centre of a system of craftsmanship to which we owe all the monuments of the Middle Ages, and were themselves the inheritors of the traditions of architecture from the building of Solomon's Temple downwards.

But why is Solomon's Temple taken as the fount of all subsequent great architecture ? Of all the buildings of antiquity it was the least likely to found a school. In the first place it was architecturally quite unimportant in comparison with the colossal structures of Egypt, Assyria, Babylon, and Persia, and in the second it was the only ecclesiastical building of the nation, and, having nothing following to be influenced by it, no school of craftsmen could be founded upon it. The myth which makes Solomon's Temple the seed of future architecture may be set on the same level as that of the SS. Quattro Coronati, as told by Mrs. Jameson, and now again by Mr. Ravenscroft.

Leader Scott, if I remember, will have it that the title of *Magister*, or Master-Mason, means something more than the position of Architect, and signifies a formal degree in the Comacine mystery, like that in modern Freemasonry. But this is a very gratuitous assumption. "Master" in English, "Maître" in French, and "Messere" in Italian is the commonest courtesy title. One has even read of *Messer Domeniddio* ! And here comes in the question whether modern Freemasonry has ever had any connection with the craft of masonry, or whether the pretended connection is anything but symbolical and an allegory. As to that I say nothing, knowing little of the history of the craft. I will only point out that the word "free-mason" is common enough in old building accounts without any mysterious reference to a secret society. I quote the following from the building accounts of Wadham College, Oxford, where free-mason means a worker of free-stone as distinct from the ordinary mason whom we should call a waller or a setter :—

frestone masons to taske	for working two lights of windows	0	6	8
	for 61 foote of window table at 3*d.* the foote	0	15	3
	for the freemasons in pte of paymt. for the gate	2	15	0
	for working a dore	0	8	0
frestone	Chillingworth for 24t and 5 foote of freestone	1	8	5
Walestone	Smedmore for 87 load of Ragstone	1	9	0
Masons	Wm. Arnold's weekly wage	1	0	0
	Wm. Blackshawe, 5 dayes	0	8	4
	John Blackshawe, 6 dayes	0	9	0
	&c., &c., &c.			

Mr. Ravenscroft, who, by the way, makes almost as great havoc of his proper names as Leader Scott of her Latin, which is mostly unintelligible, is mistaken in his description of a fresco in the under church of St. Clemente, of which he gives an illustration. He says it represents workmen engaged on a building and being directed somewhat angrily by a *Magister*, who is named Sesinius. He even tries to detect the apron of the modern freemason under the toga of Sesinius. The real subject is quite different. Sesinius was the pagan husband of a Christian wife who sent his men to seize St. Clement ; but they, afflicted like him with judicial blindness, mistook the column which they are dragging along for St. Clement. The legend is further illustrated by other frescoes on the same wall, and may be read in Fra Nolan's book on the Church, where is a better illustration of the pictures to a larger scale than that in Mr. Ravenscroft's work.—Your obedient servant, THOS. GRAHAM JACKSON.

Briantcroft, Milford-on-Sea: 23rd Jan., 1918.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—It does not surprise me that Mr. Prior is not convinced by what I have written on this subject, although I scarcely think he will expect me to accept his " will-o'-the-wisps " designation any more than I can Sir Thomas Jackson's " Myth of the Comacines."

Indeed, one has wondered that more have not shared Mr. Prior's disappointment, for one of the reasons which led me to further study of the subject was that I felt, however firm my own conviction might be, my treatise was not overweighted with proof.

I claim, moreover, to be acquitted of going the length either of Merzario or Leader Scott, but all

this will come out in my further notes, now gone to press, and upon which, if I send you in due course a copy, perhaps Mr. Prior will do me the honour of his criticism.—Yours faithfully,

W. RAVENSCROFT [*F.*].

Priority of Building after the War.

98 *Wimpole Street, W. : 22nd Jan.*, 1918.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Is there not something the Institute stands for higher than the interests of its members, even if they did suffer by the regulation of building after the war? What if the protest joins to those of architects the interests of the building trade? Do architects and the trade exist for their own sole advantage, or have they no responsibilities towards the State? Is the cause of the supposed intention of the Government to control building after the war based upon the belief that there will be a shortage of materials and labour? If not, for what other reason is such control likely to be instituted? If so, however, is it denied that there are grades of importance to the community in regard to the various classes of buildings waiting to be undertaken? Does the Institute seriously contest the allegation that working-class houses are needed by the thousand? If not, is it not more important to build them than to build anything else? May it not also be of more importance to the nation to give priority to the building of factories than mansions for those enriched by the war? Without some form of Government control, how is it suggested that such priority can be obtained?

The above are a few questions that force themselves upon me after reading the report of the discussion upon Mr. Wills's motion.

I venture to hope there may be many others who will profoundly dissent from the resolution, in spite of the large measure of unanimity it appeared to receive.—Yours faithfully,

FRANK M. ELGOOD [*F.*].

The Education of the Architect.

School of Architecture, University of Liverpool:
31st January, 1918.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—I do not know whether Mr. Arthur Keen's letter on "The Education of the Architect"—published in your issue for January—may be regarded as expressing only his own personal opinions, or whether it is to be considered as a semi-official *démarche* on behalf of the present Board of Architectural Education. But in either case it clearly demands a reply.

I propose to take Mr. Keen's principal statements point by point and to answer them. Before doing so I would refer such readers as are interested to my original letter and to Mr. Keen's, published respectively in the December and January issues of the JOURNAL. They will then be able to judge for themselves:

(i) How far Mr. Keen may be held to have dealt with the questions raised by me in the first instance, and

(ii) The degree of accuracy with which I have represented his views in the italicised passages below.

The purpose of the Final Examination is to test a man's qualifications for practising as an architect.

This cannot be said to be achieved under the present system. A group of practitioners sit in London and conduct relatively brief and arbitrary tests. Candidates come before them from all parts of the United Kingdom. The examiners know nothing of the circumstances of the very varied training of those candidates: they have no direct knowledge of their abilities. All they know is that a professional Star Chamber, called the Testimonies of Study Committee, has at one time or another approved four designs submitted by each candidate; and that that Committee was itself also ignorant of the nature of the education of the authors of the designs and of the value which could legitimately be placed upon their work. Thus equipped, the examiners, apparently by a process of divination and clairvoyance, detect how much of any individual's performance in the Final is the product of cramming or may be ascribed to luck, and how much is evidence of genuine competence. A remarkable feat, but one fraught with over much risk for the person most interested in its successful execution. So conducted the Final Examination may prove many things—but not a man's qualifications for practising as an architect.

The Final R.I.B.A. is a professional, the Intermediate a non-professional examination.

A false theory of architectural education is here proclaimed: the old Victorian antithesis of theory and practice is implied. So long as this sectional view of the subject obtains, so long shall we fail to secure efficiency in the training of the profession. The work of education cannot reasonably be divided into two compartments—one "non-professional," partly controlled by experts who teach and know the capacities of their students; the other "professional," in the hands of amateur educationalists who merely examine and are necessarily without such essential information.

At present the number of professors or directors of schools who are voting-members of the Board of Architectural Education is less than one-third of the total effective membership: even if the schools dealt with the entire training of the architect, this would be a sound arrangement: but school training is only a beginning, and therefore the Board should consist mainly of those who have had long experience of practice.

In other words, empiric knowledge is to be considered as of more importance than scientific: and the exponents of empiricism are to dominate the final stages of qualifying education under all conditions.

Architectural education has not developed upon these lines in France or America, nor could it properly so develop anywhere.

It may be good polemics to represent the expert educationalist as a person imperfectly qualified to deal with concrete issues, but I submit that it is at the least a disingenuous line of argument to take. An extensive practical experience is not the exclusive privilege of architects who do not teach. Professors and directors of schools are normally free to undertake private work, and do so, often upon a large scale. Mr. Keen cannot be unaware of that fact. The head of a School of Architecture who has not sufficient practical knowledge to justify his acting as examiner for the R.I.B.A. Final must be in a condition of very remarkable ignorance.

To deny ultimate educational powers to architects who both teach and practise, and to confirm in possession of such powers those who perform the latter function only, cannot commend itself to an impartial judgment.

. . The Testimonies of Study Committee is a strong one and comprises some of the best-known men in the profession. To put the designs made as Testimonies of Study under the control of the School Professors would be wrong. The designs form part of a professional examination and should be judged by practising architects.

Mr. Keen is in a better position to estimate the strength of the Testimonies of Study Committee than I am. For he doubtless knows the names of its members; whilst I, like the rest of the profession, who lack private sources of intelligence, do not know.

Whatever may be its strength, however, it is the by-product of an obsolete system, and no confusion of the issue, by invidiously attributing to its members "professional" qualities, can justify its existence.

It would be useful to inform students of the reasons why their designs are rejected: but this course has been seriously considered and felt to be impracticable.

It would be more than useful—it would be sensible and just: and there would appear no explanation of this feeling of impracticability which does not reflect either upon the Testimonies of Study Committee or upon the Board of Architectural Education, or upon both, if both entertain it.

Students who have felt aggrieved by the decisions of the Testimonies of Study Committee have been interviewed and the reasons for not accepting their designs have been explained to them.

One would like to know the precise number of the appellants: the ratio of that number to the total body of rejects since the Testimony of Studies scheme came into operation: and finally the percentage of inquirers who travelled to London from the Provinces in order to satisfy themselves that justice had been done in their own cases.

It is probably a bad thing that the Schools seem impelled to work with one eye on the Institute Examination, but as this is actually the case the examination should be so shaped as to exert the soundest possible influence on education.

No examination conceived and directed by a centralised unrepresentative and mainly non-teaching body can under any circumstances exert other than a bad influence on education.

The remedy does not lie in tinkering with the examination, but in its abolition, in a reconstitution of the Board of Architectural Education, and in the establishment of a decentralised examination conducted through the instrumentality of the competent authorities at the teaching centres.

When the granting of qualifying degrees is on certain terms delegated to such authorities—as, in the case of the Profession of Medicine, it is by the British Medical Council—then there is some guarantee that the qualifications are of value. An Institute merely operating examinational machinery in the metropolis can offer no equivalent assurance.

To form the Board of Architectural Education into a kind of administrative body for the Schools would be an error. The individuality of the Schools is a valuable asset, and nothing should be done to impair it or to weaken the spirit of emulation that should exist between the various Schools.

Presupposing that the Institute utilised the Schools to prepare candidates for the profession and to control admission to it; and presupposing again that the Board of Architectural Education were reconstituted upon a logical representative basis, the functions of the Board would include:—

1. The setting up of a certain minimum standard for the Intermediate and Final Examinations and the enforcement of that standard.

2. The appointment from its own membership of external examiners whose business it would be to attend and assist at the examinations and to report to the Board.

The Board would, in short, possess an effective authority and would act as the General Council of Medical Education acts. This, so far from impairing the individuality of the Schools or weakening their spirit of emulation, would have precisely the opposite effect. The Schools of Medicine in provincial cities are famous: each one of them, though conforming to a general scheme of education, has distinguished itself in some particular branch or branches of medicine or surgery. As much cannot be said for the Schools of Architecture—nor ever will be, as long as existing conditions prevail.

The great strength of medical education, the confidence which it inspires, and the prestige which it gives are largely due to the broadness of its basis and the essential unity of its conception. It is not manipulated by a London club, nor are its professors considered incompetent to complete the processes which they initiate.

Lest Mr. Keen should think it necessary to point out that medicine and architecture are different subjects, let me say that the methods which most directly give effect to the fundamental principles of all quali-

fying education should be as applicable in one sphere as in the other.—Yours, etc.,

LIONEL B. BUDDEN [*A.*].

P.S.—As Mr. Millard's proposal (repeated and amplified by Mr. Keen), that the school directors should confer and lay their conclusions before the Board of Architectural Education, did not seem to have evoked any response, I had taken upon myself to write to Professor Dickie and to suggest to him that he should invite the heads of the schools at an early date to a conference at Manchester—the most generally convenient centre for the purpose. I understand now, however, that the Board is itself taking steps to summon such a conference.—L. B. B.

"Unity of the Profession"!

24th January, 1918.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—In these dull days I suppose we ought to be thankful for humour in any form, and the suggestion, under the above heading, of our amalgamation with the Society of Architects is too funny to pass without comment. I, for one, had not the slightest idea that such a subject would be discussed at a meeting called to consider "The Unity of the Profession," and should amalgamation be again considered might I suggest as more appropriate the title "High Explosives" or "The Camouflage of Registration"?

A pledge was given that this matter should not be discussed until after the war, and it was not worthy of our Council to sanction such a meeting and call it "informal." I protest against the report being printed in our JOURNAL; it is in large type, and in the most prominent position, and it is not stated that only about thirty men attended the meeting. While our Associates are fighting abroad, we must "play the game" at home. We ought to feel very grateful to Mr. R. Goulburn Lovell for his dignified and emphatic protest (see page 56).—Yours obediently,

SYDNEY PERKS [*F.*].

THE PROBLEM OF RENDERING WOODEN ENGINE HOUSES SOUND-PROOF.

The following communication was recently received from Major Harry W. Taylor, R.E.:—

"In connection with some military work there are several petrol engines in wooden houses which are rather noisy. The engines are about 12/14 h.p., 3 and 4 cylinders, of high-speed type, operating dynamos (direct drive on crankshaft). The problem is to silence the noise of running and still retain a certain amount of ventilation.

"The engine-houses are about 14 feet by 12 feet by 8 feet high to eaves, with gable roofs and concrete floors. The walls are of 1-inch boarding on timber framework, while the roofs are of ¾-inch boarding covered with waterproof roofing felt on the outer side.

"The present ventilation is obtained by means of a window hinged at top and opening outwards, but this is altogether unsatisfactory and must be changed entirely. The exhausts have been dealt with quite satisfa torily, and are nearly silent. What is wanted is some method (*a*) of reducing the noise of the actual working of the engine itself (if this be feasible); and (*b*) of rendering the wooden engine-house more or less sound-proof, while still securing some little ventilation, at or near the ridge for choice.

"Any advice or hints your members may be good enough to give as to the best way of rendering these wooden houses sound-proof or nearly so, *at as moderate a cost as possible*, would be very welcome."

The Council referred the matter to the Science Standing Committee, and the following recommendations, compiled by Mr. A. O. Collard [*F.*] from notes furnished by Mr. J. E. Franck [*A.*] and Mr. H. W. Burrows [*A.*], were forwarded to Major Taylor:—

"Isolate the concrete bed of the engine from the floor and foundation of the building by cutting a chase around the engine-bed concrete.

"Place beneath the bedplate of the engine a felt mattress, and, if the bed of the engine be hollow, fill in with concrete or hard wood, so as to obtain as large a bearing surface as possible.

"If possible, keep the holding-down bolts separate from the concrete, placing an iron washer beneath the concrete, and a soft wood or vulcanite washer between the bed of the engine and the nuts of the holding-down bolts.

"Try various methods of placing blankets over the engine and between the engine and the framework of the hut, so as to form a cushion or 'tea cosy' over the machinery.

"If possible, place a balk of timber under the engine-bed of concrete, through which to pass the holding-down bolts; the concrete bed lies on and holds down the timber.

"If ventilation be needed, place a revolving cowl on the apex of the roof, so that sound passing out may be disseminated in every direction."

Major Taylor, in acknowledging the receipt of these notes, says that he thinks the information given will be very helpful.

Heroes' War Memorial.—Sir Henry Jones, formerly Professor at the University College of North Wales, in the course of a recent address, said: "I would like all North Wales to join in the beautiful movement for the memorial hall at the University College of North Wales, Bangor, where the name of every North Wales lad that has fallen shall be inscribed, and where every child that has lost a father shall have an education for nothing. Scrap your little religious differences over that. The College is a national institution; the beauty of the building there now is almost unparalleled. We, as members of the Royal Commission on University Education, thought it the finest modern college building that any of us had ever seen."

9 CONDUIT STREET, LONDON, W., 16*th February*, 1918.

CHRONICLE.

The R.I.B.A. Record of Honour: Fifty-second List.

Fallen in the War.

ROGERS, 2nd Lieut. CECIL WALTER, Queen's Royal West Surrey Regiment, *Associate*. Died of wounds, 28th Dec. 1917. Aged twenty-eight.

2nd Lieut. Rogers was educated at King's College School, received his professional education at the A.A. Day and Evening Schools, was articled to Messrs. Warwick & Hall, and was an assistant in their office when war broke out. He joined the Artists' Rifles in September 1914.

QUEKETT, 2nd Lieut. JOHN, M.A., F.S.A., Black Watch. Wounded and reported missing last July; his body has since been found and interred.

2nd Lieut. Quekett was a pupil of the late Sir Thomas Drew. He was for some years engaged as special draughtsman on the *Builder*, and was architectural editor of the "Victoria County Histories."

GUTTERIDGE, 2nd Lieut. RICHARD HOWARD, Queen Victoria's Rifles, *Associate*. Killed in action 1st October 1916, in France.

BELL, Lance-Corp. EDGAR ALAN, Staffordshire Regiment, *Student*. Died of wounds, 4th January.

Lance-Corp. Bell, when war broke out, was in the office of Colonel E. A. Kirk [*A.*], of Leeds, and was a student of the Leeds School of Art. Being in the Yorkshire Hussars he was mobilised in August 1914 and was sent to France in 1915. Transferring to the Staffordshire Regiment, he was wounded in June 1916 and again in May 1917. It was from the effects of the latter that he died.

Military Honours.

BROWN, Lieut.-Col. JOHN, Northamptonshire Regt., *Licentiate* (of Northampton), who has been twice mentioned in Dispatches, in connection respectively with the evacuation of Suvla and the operations in Egypt and Palestine culminating in the first battles of Gaza, has been awarded the D.S.O. He is also the recipient of the Russian Order of St. Anne, with Swords.

ROSS, Corpl. HUGH A., of the Topo. Section, H. 2, B.E.F. [*A.*]. Mentioned in Sir D. Haig's Dispatches, 17 December 1917.

KEYS, Captain P. HUBERT, Royal Engineers [*A.*]. Mentioned in Dispatches 17th December 1917. Awarded Military Cross for gallantry in the Field.

BARROWCLIFF, Captain A. M., B.A., *Student*. Awarded the Military Cross in August 1916.

PIGOTT, Lt. (Acting Capt.) R. MOUNTFORD, R.E. [*A.*]. serving in Palestine. Mentioned in Dispatches, 17th December 1917.

Serving with the Forces.

Intimation has been received that the following are serving, bringing the total to 79 Fellows, 536 Associates, 333 Licentiates, and 300 Students:

FELLOW.

Chatterton, Fredk.; Lieut., Staff of Director of Works, Egyptian Expdy. Force.

ASSOCIATES.

Clarke, J. D.; Lieut., R.N.V.R.
Vinden, G.; 2nd Lieut., Royal Engineers.
Thompson, C. W. W.; 2nd Lieut., Royal Engineers.

LICENTIATES.

Baker, H. G.; 2nd Lieut., Royal Flying Corps.
Masey, F. W.; 2nd Cape Corps.

STUDENT.

Francis, B. T.; R.N.A.S.

Informal Conference Postponed.

It has to be mentioned that the Council felt themselves obliged to postpone the Informal Conference with public men and writers on the subject of "The Need for a National Policy of Town Improvement" which had been fixed for the 13th February. Several distinguished public men who were expected to take part in the Conference found themselves unable to attend at the time fixed, and circumstances not admitting of a change, the Council deferred the Conference until more convenient arrangements could be made.

French Honours for an English Architect.

By his unanimous election as "Membre Correspondant de l'Institut de France" Mr. John W. Simpson [*F.*] is the recipient of the greatest honour the Académie des Beaux-Arts can bestow on a foreign architect. An American painter and an Italian sculptor were elected at the same time. The vacant seat now filled by Mr. Simpson's election was formerly held by Von Ihne, the Imperial Court architect and designer of the Kaiser-Friedrich Museum at Berlin.

OBITUARY.

Sir John Wolfe Wolfe-Barry, K.C.B., F.R.S., twice President of the Institution of Civil Engineers, who died on the 22nd January at the age of eighty-one, had been an Honorary Associate of the Institute since 1877. The youngest son of Sir Charles Barry, architect of the Houses of Parliament, and brother of the late Charles Barry, a Past-President of the Institute, he was born in 1836 and was educated first at Glenalmond College and subsequently at King's College, London. His engineering pupilage was served in the office of Sir John Hawkshaw, with whom he was associated upon many works, especially in the construction of the Cannon Street and Charing Cross railways and the Thames bridges connected therewith. He began

practice on his own account in 1867 and quickly came to the front as a railway engineer. He was consulting engineer for several railway concerns, including the Caledonian, the Lanark and Ayrshire, the London, Chatham and Dover, and the Metropolitan and District Railways; also for the Shanghai and Nanking, and various important Indian railways. He was the designer and acting engineer of the Barry Docks and Railways, the Grangemouth Dock, the Surrey Commercial Docks, the Newport New Alexandra Dock, the Middlesbrough, the Hull Joint, and the Immingham Docks; also of the Natal Harbour works, the Tower Bridge (in conjunction with the late Sir Horace Jones, the City Architect), the New Bridge at Kew, and the railway bridge over the Thames at St. Paul's Station, Blackfriars. He was greatly interested in the improvement of London traffic conditions and was a member of the Royal Commission appointed to consider and advise on the matter. He was one of the founders in 1901 of the British Engineering Standards Committee, from which numerous sectional committees and sub-committees have resulted. Keenly interested in engineering education, Sir John was instrumental in getting established the examinations held by the Institution of Civil Engineers and was for twenty years Chairman of the Examination Committee. He was also Chairman of the Executive Committee of the City and Guilds of London Institute, and Chairman of Westminster Hospital. In 1894, on completion of the Tower Bridge, he was made a C.B., and in 1897, in recognition of his valuable public services, was created K.C.B. Only a few months ago Sir John presented to the Institute an interesting relic in the shape of a pair of compasses used by his eminent father, Sir Charles Barry, up to the time of his death in 1860. A double interest now attaches to the relic, for since that time until their presentation the compasses had been in everyday use by the no less eminent son, Sir John Wolfe-Barry.

MINUTES.

At a General Meeting (Business) held Monday, 4th February, 1918, at 4 p.m.—Present: Mr. Henry T. Hare, *President*, in the Chair; 18 Fellows (including 15 members of the Council) and 3 Associates (including 2 members of the Council)—the Minutes of the Meeting held 7th January, 1918, having been published in the JOURNAL were taken as read and signed as correct.

The President announced that since the last meeting news had been received that the following members had fallen in the war: 2nd Lieut. Cecil Walter Rogers, Royal West Surrey Regiment, *Associate*, elected 1914; 2nd Lieut. Richard Howard Gutteridge, London Regiment, *Associate*, elected 1914; Lance-Corp. Edgar Alan Bell, Staffordshire Regiment, *Student*. Upon the motion of the President, it was RESOLVED that the deepest regrets of the Institute for the loss of these members be entered on the Minutes, and that a message of the Institute's sincerest sympathy and condolence be conveyed to their near relatives.

The decease was also announced of Frederic Chancellor, elected *Associate* 1864, *Fellow* 1870, and a vote of sympathy and condolence was passed to his son, Mr. Wykeham Chancellor [*F.*], of Chelmsford.

It was announced that the following gentlemen, who had passed the qualifying examination, had been nominated for election: As FELLOWS, Sydney Kyffin Greenslade (*Pugin Student* 1891, *Associate* 1892, *Grissell Medallist* 1897, *Godwin Bursar* 1900); Edward Lewis Harrison, *Licentiate*; Gerald E. Jones, *Licentiate*, and Arthur J. Stedman, *Licentiate*; as ASSOCIATE, Kenneth Cameron, 2nd Lieut. R.E.; as HON. ASSOCIATE, Francis Seymour Leslie, Colonel, R.E., retired.

The President announced that the Council proposed to submit to the King the name of Mr. Ernest Newton, A.R.A., *Past President*, as a fit recipient of the Royal Gold Medal 1918, for the excellence of his work as an architect.

The proceedings terminated at 4.10 p.m.

NOTICES.

A SPECIAL GENERAL MEETING will be held Monday, 4th March 1918, at 4.30 p.m.

To elect the Royal Gold Medallist for 1918. The Chairman to move "That subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of architecture be presented this year to Mr. ERNEST NEWTON, A.R.A., in recognition of the merit of his executed work."

A GENERAL MEETING (BUSINESS) will be held at the conclusion of the above for the following purposes:—

To read the Minutes of the General Meeting held 4th February 1918.

To proceed with the election of candidates for membership [*the names are set out under "Notices" in the January issue of the* JOURNAL *and in the Minutes of the Meeting of 4th February printed above*].

The following Resolution will be moved on behalf of the Council: "That in accordance with the provisions of Clause 33 of the Charter application be made to the Privy Council to sanction the suspension of the By-laws governing the Annual Election of the Council, the Standing Committees, and the Hon. Auditors, so that the Council, the Standing Committees, and the Hon. Auditors elected in June 1917 shall remain in office until the 30th June 1919, provided always that the Allied Societies and the Architectural Association shall be represented on the Council by their Presidents in accordance with the By-laws."

Informal Conference, 13th March, at 3.30.

NATIONAL HOUSING AND NATIONAL LIFE.

Discussion to be opened by Professor ADSHEAD.

York and East Yorkshire Architectural Society.

In the recently issued Supplement to the *Kalendar* the names of some of the Officers and Council of the above Society are omitted. The following is the complete list:—

†T. W. Whipp [*L.*], *President*, *A. B. Burleigh [*Licentiate*], *Vice-President and Acting Hon. Treasurer*; *William Bell; *George Benson [*A.*]; *C. H. Channon [*F.*]; John Ferguson [*Licentiate*]; Llewellyn Kitchen [*F.*], *Hon. Corr. Sec., Hull District*; Alan E. Munby, M.A. Cantab. [*F.*], *Vice-President*; S. R. Kirby [*Licentiate*]; *S. Needham [*Licentiate*]; *A. Pollard [*F.*]; †Ernest A. Pollard [*Licentiate*], *Hon. Treasurer*; *J. E. Reid [*Licentiate*], *Acting Hon. Secretary*; †E. F. R. Sample, *Hon. Secretary*; J. Stuart Syme [*Licentiate*], E. Ridsdale Tate [*Licentiate*].

* Past Presidents. † On active service.

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